

# The Australian **COMMODORE** **REVIEW**

Vol 1 March \$3\*  
\*Recommended retail price

Confessions  
of a  
Commodore  
Freak  
Calc Result  
Spreadsheet  
Easy Spell  
Superbase  
– a database  
for all  
reasons

Easy Script  
Games  
Dvorak  
versus  
Qwerty  
View from  
the Hold  
Program  
a Winner  
Book Review  
News

# DLM<sup>®</sup> Maths Games

A Fantastic Learning Experience

**ALLIGATOR MIX**  
ADDITION AND SUBTRACTION  
3+2 = 5  
HITS 5 MISSES 1

**DEMOLITION DIVISION**  
10:5  
6:3  
4:2  
4:1  
9:3  
HITS 1 MISSES 0

**DRAGON MIX**  
MULTIPLICATION AND DIVISION  
2:3  
9x7  
4:2  
HITS 3 MISSES 1

**METEOR MULTIPLICATION**  
9x2, 2x1, 9x7, 4x1, 4, 2x2, 7x1, 0x3, 5x6  
HITS 1 MISSES 0

**MINUS MISSION**  
SUBTRACTION  
3-1, 1-0, 7-1, 3-2, 7-0  
HITS 4 MISSES 0

**ALIEN ADDITION**  
0+0, 1+3, 6+3, 0+6, 4+3, 14  
HITS 1 MISSES 1

\* Apple is a trademark for Apple Computer Inc.

## ARCADEMIC SKILL BUILDERS IN MATHS

Combining computer game fun with sound educational principles, Arcademic Skill Builders in Maths is a set of six individual programs which provide practice and drill in each of the basic maths operations and in combinations of operations. The colourful graphics, fast action and arcade game format of the programs are designed to appeal strongly to the child of school age, and to enhance his/her motivation and "staying power". The titles in the set are:

- **Alien Addition** — Addition
- **Minus Mission** — Subtraction
- **Meteor Multiplication** — Multiplication
- **Demolition Division** — Division
- **Alligator Mix** — Addition and Subtraction
- **Dragon Mix** — Multiplication and Division

Arcademic Skill Builders in Math meets the needs of individual students by providing the following game control options:

- The program range of numbers can be changed to practise basic drill with the numbers 0-3, 0-6, or 0-9.
- The skill level of the game ranges in speeds from 1-9.
- The game time can range from 1-5 minutes.
- Either the keyboard or the paddles may be used.

DLM programs have been extensively field-tested. DLM is committed to quality. DLM programs have been highly praised time and time again in reviews in countless journals. *A child never outgrows DLM software!*

If you own an Apple II, Apple IIe, IBM-PC, Atari 400, 800 or Commodore 64, with disk drive, you should take a close look at DLM's Arcademic Skill Builders in Maths. We even provide a special School version for the Apple including blackline masters, teacher's manual and colour flashcards.

Another set of educational games from DLM is Arcademic Skill Builders in Language Arts. Each of these six new software packages provides a highly motivational approach to learning in vital language arts areas:

- **WordMan** — word building through patterns
- **Word Invasion** — recognition of six parts of speech
- **Word Viper** — subject/verb agreement at four levels
- **Word Radar** — sight word recognition
- **Word Master** — antonyms, synonyms and homonyms
- **Spelling Wiz** — spelling demons

*And the content is all Australian!*

See your local dealer or contact the Australian distributor, Dataflow Computer Services Pty. Ltd., 6-8 Elizabeth St., Burwood NSW 2134, on (02) 745 3303, for a free software catalogue and the address of your local supplier.

A Gareth Powell Magazine

FIRST ISSUE

## The Australian COMMODORE REVIEW

Vol 1 No 3 March '83\*

\*Recommended retail price

Confessions of a Commodore Freak Calc Result Spreadsheet Easy Spell Superbase - a database for all reasons	Easy Script Games Dvorak versus Qwerty View from the Hold Program a Winner Book Review News
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This is the first issue of a magazine which is about Commodore products. It is not the official magazine of Commodore, as can be seen by some of the reviews printed herein. If we believe something is wrong we say so loud and clear. When the publicity man at Commodore, David "Old China Hand" Harvey, read the first manuscript he asked plaintively whether we wanted him to jump out of the window or just resign. But the magazine is not as tough as all that.

For example we believe that the Commodore 64 is the most remarkable value for money on the Australian market in microcomputers today. We own a collection of microcomputers and we are in a position to judge. In many ways it is superior to the Apple IIe - and it is a fraction of the price. True, it doesn't support 80 columns - this would be effectively impossible for a machine working through the average colour monitor. True, it has fewer pro-

grams available at the moment. But it has more functions, more keys, is ergonomically more satisfying, and the price doesn't require a new mortgage.

Not that everything in the garden is roses. Apple produces some of the best documentation and publicity material in the world. In this area Apple are a class act. Commodore are not. Some of the documentation they supply is obviously a last minute design job with price being the primary consideration. Where we find this is so we shall say so sharply and clearly. But this in no way detracts from the fact that Commodore produce superb machines more cheaply than the competition.

The reason we are publishing this magazine is so that people who already own a Commodore may obtain more pleasure from their ownership - and anyone who is contemplating buying a microcomputer may be helped to make the right decision on a cost-effectiveness basis.



If you feel anything in this magazine can be improved, do not hesitate to tell us. If we can throw brickbats at program writers, we have to be prepared to accept them as well. □

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# Confessions of a Commodore Fanatic

by Gareth Powell

I am a Pom. Nothing wrong in that, in itself. After all, I have now been neutralised and become an Australian. But being a Pom my attitudes towards microcomputers were formed in the UK. Those attitudes are very different from the attitudes of Australians.

For a start, there are about seven times as many users of microcomputers per head of population in the Old Dart as there are in Australia. This may have something to do with the nights being long and gloomy and entertainment prospects thus being restricted to sex, the telly, home decorating and microcomputing — not necessarily in that order.

In the UK the Commodore Pet was and is a major success. It has its own fan clubs, its own magazine. That is because it is built with all the rugged simplicity of a Sherman tank. It works straight out of the box and keeps on working. Temperamental it is not.

## The 4016

I had shipped out to Australia several of my favourite machines (I am, you should understand, somewhat freaky on the subject of microcomputers). My selection included three Commodore 4016s which are direct lineal descendants of the Pet and have that splendid boxy no nonsense shape. (I see that Commodore have now gone to Porsche to design their latest 700. When I want a microcomputer that looks like a racing car I will ask for one).

The 4016 is available in several versions. The 40 can, with some difficulty, be changed to 80. This refers, of course, to the number of columns on the screen. If you look inside a 4016 (an amazingly simple procedure involving the release of one screw) you will see that the motherboard distinctly says it is 80 columns. Which must mean that it is the same board that is used in the 80 series. It would therefore, one would think, be an easy matter to extend the 4016 into an 8016.

I have no doubt it is possible but it is by no means easy.

Anyway, at my age 40 column characters are a lot easier to read than 80 columns so I have given up the idea. The 16 stands for the amount of memory I have to play with and 16K is nowhere near enough, especially when you start playing with spreadsheets. But the machines are easily convertible up to 96K which, when I have saved my pennies, I shall do as I need that amount of memory when I make spreadsheet analyses of the future of my company in order to encourage the bank manager to take a more lenient view.

## Under-rated

It is not, you understand, that I am becoming unfaithful to my original — and magnificently preserved — 4016s but I have been using the Commodore 64 for several months now and I have come to the quite firm conviction that it is the most under-rated machine on the market.

It has everything that the Apple IIe has — and a lot more besides. It is elegant, easy to use, has a splendid array of function keys and there is more than enough software to keep me happy on the business side. (On the games side the situation is somewhat different but that too is improving, especially since they introduced a game emulating the soccer Cup Final at Wembley Stadium in London with both teams in my hometown colours.)

However, I am not alone in regretting the passing of the Pet and the 4016s and the rest of the family. Almost every Commodore dealer and every Commodore programmer I speak to in Australia refers to their demise with regret. I have had several offers for my machines since I let it be known they were in Australia and in pristine condition. One programmer, with more front than a Mack truck, asked me plaintively if I didn't have the original packing.

Is there anything that I dislike about Commodore? Sure. Lots of things.

They don't use a proper ASCII code for openers, which can make life

extremely difficult when you are trying to make machines and programs truly portable.

They have the wrong image in the market place when it comes to serious computing. The managing director of Commodore Australia plainly doesn't give a tinker's cuss if people regard the Commodore 64 as a computer/toy. But I do.

It is one of the great computer designs in the world and it seems to me that Commodore should look at providing it with a slightly more upmarket image. It is interesting that industry commentators consistently rate the Commodore as the pick of the microcomputers. It is very difficult to get this across to Apple enthusiasts who believe that God whispered the 99th name of Allah in their ear.

And the documentation that comes with Commodore and associated Commodore products rates from double dreadful to acceptable. There is no standard. Most of it reads as if it was put together by a student of "Fawley Towers". For all I know this may well be true.

Finally, I hate the fact that you can never predict with any great certainty what Commodore are going to do next. They make ASI0 look like the collection of blabbermouths we always suspected they were. It is no coincidence that the publicity manager for Australia spent most of his young life in Hong Kong practising not telling anybody anything.

## Future

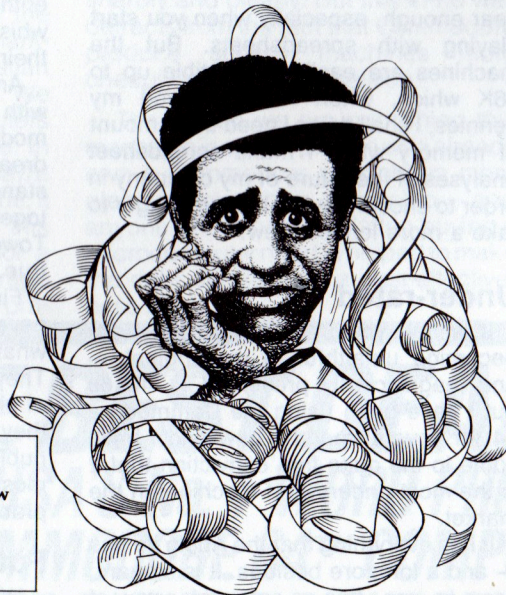
With any machine I would end up an article such as this with a triumphant round-up of what I know or guess will happen in the near future. And most of the time I would be right. Not with Commodore.

I am fairly certain that they will introduce speech facilities built-in to the Commodore 64. I am fairly certain they will upgrade the Vic-20. I am reasonably sure that they will be able to make MS/DOS available on the Commodore 700 in the near future (indeed, I have seen a press release which says it is already there). David "Old China Hand" Harvey smiles and says "No". For him that is a long speech.

I've been commissioned by the "Weekend Australian" to produce a contest to find the young programming brain of Australia. The prizes will be Commodores, of course. While I am running the contest I will try to extract more information about Commodore's future plans from Commodore's management. Don't hold your breath. □

# Hunt the Word

**T**his puzzle game program will run on either the Vic 20 with an 8K expansion or on the Commodore 64. There is no suggestion that it is an original. What program truly is? It has been around for a long time in various versions for various machines. We originally saw it for the Commodore Pet in the UK and then again back sometime in 1982 in the "Gazette". This current version is an adaptation by Eric Hansing and Bob Myers Jr and originally appeared in the first issue of "Compute!" in the middle of last year. To make the program work on a Commodore 64, simply substitute the lines in the sub-program that follows the main program for the VIC 20. It's a good game. Enjoy.



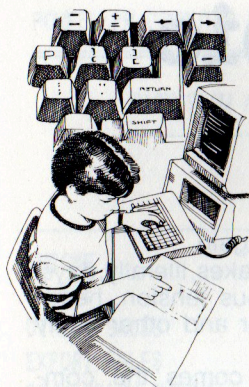
**ATTENTION PROGRAMMERS**  
 Before typing in programs, please refer to "How To Type COMPUTE!'s Gazette Programs" and "A Beginner's Guide To Typing In Programs" that appear before the Program Listings.

## Program 1: Word Hunt - VIC Version

Note: See "How To Type In COMPUTE!'s Gazette Programs" to understand the underlined characters.

```

2 CLR
3 A=0
4 POKE36879,8
5 A=A+1
10 PRINT"{CLR}":PRINT"{7 DOWN}{4 RIGHT}
    {DOWN}{RVS}QQQQQQQQQQQQ"
11 PRINT"{RVS}{4 RIGHT}Q{11 SPACES}
    Q"
12 PRINT"{RVS}{4 RIGHT}Q WORD HUNT
    Q"
13 PRINT"{RVS}{4 RIGHT}Q{11 SPACES}
    Q"
14 PRINT"{RVS}{4 RIGHT}QQQQQQQQQQQQ{OFF}"
20 FOR X=1TO200:NEXT:PRINT"{CLR}"
25 L$="{WHT}{YEL}{GRN}{PUR}{RED}{CYN}":P
    RINT MID$(L$,A,1):IF A<7 THEN 5
70 FOR X=1 TO VAL(RIGHT$(TI$,2)):R=RND(1
    ):NEXT
80 S=10:W=10:DIM M(S,S),W$(W),P(S,S),L(W
    ,3),F(8)
90 POKE36879,253:PRINT"{CLR}{DOWN}{BLU}W
    HAT SKILL LEVEL"
95 PRINT:PRINT:PRINT
100 PRINT"{PUR}1(EASY) TO 5(HARD)
    {3 SPACES}3{3 LEFT}";
110 INPUT$:X=VAL(R$):IF X<1 AND X>5 THE
    N 90
120 SL=9-X
130 PRINT"{BLK}{2 DOWN}ENTER"w"WORDS,"
140 PRINT:PRINT"MAKE EACH WORD 3 TO 8"
150 PRINT:PRINT"CHARACTERS LONG."
170 FOR X=1TOW:L(X,1)=0:L(X,2)=0:L(X,3)=
    0
180 PRINT:PRINT"{RED}WORD":X;TAB(8);"
    {2 RIGHT}?{3 LEFT}";
190 INPUT R$:Q=LEN(R$)
200 IF Q<3 THEN PRINTTAB(26);"{RVS}{BLU}
    {UP}* TOO SHORT *{OFF}":GOTO 180
210 IF Q>8 THEN PRINTTAB(26);"{RVS}{PUR}
    {UP}* TOO LONG *{OFF}":GOTO 180
220 X9=0:FOR Y=1TOQ:A=ASC(MID$("**+R$+"*
    ",Y+1,1))
230 IF A<65 OR A>90 THEN X9=1:Y=Q
240 NEXT Y:IF X9=1 THEN PRINTTAB(26)"
    {UP}* BAD WORD **:GOTO 180
250 IF X=1 THEN W$(X)R$+"*":GOTO290
260 X9=0:FOR Y=1TOX:IFQ<=LEN(W$(Y))-1 THE
    N 280
270 FOR B=XTOY+1STEP-1:W$(B)=W$(B-1):NEX
    T:W$(Y)=R$+"*":X9=1:Y=X-1
280 NEXT
290 NEXT
295 POKE36879,194
300 PRINT"{BLU}{CLR}{4 DOWN}{23 SPACES}T
    HAT'S ENOUGH WORDS!{23 SPACES}"
310 PRINT"{PUR}{4 DOWN}{23 SPACES}PLEASE
    BE PATIENT...{23 SPACES}"
320 PRINT"{BLK}{2 DOWN}{22 SPACES}I'M MA
    KING THE PUZZLE!{22 SPACES}"
340 FOR X=1TOS:FOR Y=1TOS:M(Y,X)=42:NEXT:
    NEXT:Q=0
360 FOR X=1 TO S:FOR Y=1TOS:P(Y,X)=0:NEXT
370 NEXT:Q=Q+1:IF Q>W THEN 760
380 G=LEN(W$(Q))-2
400 X9=0:FOR X=1TOS:FOR Y=1TOS:IF P(Y,X)=0
    THENX9=1:X=S:Y=S
410 NEXT:NEXT:IF X9=1 THEN 450
430 PRINT"{CLR}THIS LIST OF WORDS
    {4 SPACES}WILL NOT ALL FIT
440 PRINT"PLEASE ENTER NEW WORDS":GOTO13
    0
450 A=INT(S*RND(1)+1):B=INT(S*RND(1)+1):
    IF P(B,A)<>0 THEN 450
460 P(B,A)=1:IF M(B,A)=42 THEN 490
470 IF M(B,A)<>ASC(LEFT$(W$(Q),1))THEN40
    0
490 FOR X=1TO8:F(X)=0:NEXT
500 X9=0:FOR X=1TO8:IF F(X)=0 THEN X9=1:
    X=8
510 NEXT:IF X9=0THEN400
520 D=INT(8*RND(1)+1):IF F(D)=1 THEN 520
530 F(D)=1:ON D GOTO 550,590,580,620,610
    ,650,640,560
550 IF (A+G)>S THEN 500
560 IF (B-G)<1 THEN 500
    
```



```

570 GOTO 670
580 IF (B+G)>S THEN 500
590 IF (A+G)>S THEN 500
600 GOTO 670
610 IF (A-G)<1 THEN 500
620 IF (B+G)>S THEN 500
630 GOTO 670
640 IF (B-G)<1 THEN 500
650 IF (A-G)<1 THEN 500
670 X=A:Y=B:X9=0:FORN=2TOG+1:GOSUB1550:IF
  F M(Y,X)=42 THEN 690
680 IF M(Y,X)<>ASC(MID$(W$(Q),N,1)) THEN
  X9=1:N=G+1
690 NEXT:X=A:Y=B:IF X9=1 THEN 500
710 FOR N=1TOG+1:IF M(Y,X)=42 THEN M(Y,X
  )=ASC(MID$(W$(Q),N,1))
720 GOSUB 1550:NEXT
740 L(Q,1)=A-1:L(Q,2)=B-1:L(Q,3)=D:IF Q<
  W THEN 360
760 FOR Y=1TOS:FORX=1TOS:IFM(Y,X)=42 THE
  NM(Y,X)=INT(25*RAND(1)+65)
770 NEXT:NEXT:WP=0:TS=0
775 POKE36879,15
780 PRINT{CYN}{CLR}[5 DOWN]{RVS}READY"
790 PRINT{GRN}[5 DOWN]PRESS ANY KEY TO
  PLAY"
800 R$="":GETR$:IF R$="" THEN 800
810 POKE36879,25
820 PRINT{BLU}{CLR}[DOWN] [DOWN]
  [2 SPACES]{RVS}COLUMN";TAB(14);"
  {CYN}{RVS}[UP]W O R D"
860 PRINT{BLU}[4 DOWN]{RVS}R[DOWN]
  {LEFT}[DOWN]{LEFT}W5 UP}[2 LEFT]
  {OFF}";
861 PRINT{BLK}[4 RIGHT];
870 FORX=0TOS-1:PRINTRIGHT$(STR$(X),1);:
  NEXTX:PRINT:Y=1:GOSUB1650
880 FORY=1TOS:PRINT"RIGHT";RIGHT$(STR$(
  Y-1),1);"-";
890 FORX=1TOS:PRINTCHR$(M(Y,X));:NEXTX
900 PRINT"-":NEXTY:Y=0:GOSUB1650
910 PRINT"[RED]{RVS}[DOWN]{3 SPACES}7 8
  1[3 SPACES]"
920 PRINT{RVS}[4 SPACES]M-N
  [4 SPACES]:PRINT{RVS}[3 SPACES]6
  *Q*2[3 SPACES]"
921 PRINT{RVS}[4 SPACES]NBM
  [4 SPACES]:PRINT{RVS}[3 SPACES]5 4
  [3 SPACES]"
930 G=17:GOSUB1700:PRINT:PRINT{UP}"TAB(
  12);:PRINT{PUR}{RVS}[2 SPACES]SCORE
  [2 SPACES]:PRINTTAB(12);"EJ}
  [7 SPACES}{L}"
940 PRINTTAB(12);"EJ}[3 SPACES]0
  [3 SPACES]{L}"
950 PRINTTAB(12);"EJ}[7 SPACES]
  EL}"
951 PRINTTAB(12);"E9 U}":PRINT"
  HOME"
960 G=2:GOSUB1700:PRINT"9 SPACES"
970 WP=WP+1:IFWP>WTHEN1450
980 Q=LEN(W$(WP))-1
1000 GOSUB1700:PRINTTAB(15-(Q/2));LEFT$(
  W$(WP),Q):TIS="000000"

```

```

1020 G=4:GOSUB1700:PRINTTAB(15);"{BLU}LO
  C."
1025 PRINTTAB(15)"{GRN}ROW{BLK},{RED}COL
  "
1030 FORG=6TO11:GOSUB1700:
1040 PRINT"[5 SPACES]":NEXTG:G=6:GOSUB17
  00
1050 B$="":GETB$:IFB$=""THEN1050
1060 IF ASC(B$)=13THEN1050
1070 PRINTB$";":IFB$=""THENB=0:GOTO10
  90
1080 B=VAL(B$):IFB<1ORB>9THENPRINT"
  [2 LEFT]{2 SPACES}[2 LEFT]";:GOTO10
  50
1090 A$="":GETA$:IFA$=""THEN1090
1100 IF ASC(A$)=13THEN1090
1110 PRINTA$:IFA$=""THENA=0:GOTO1140
1120 A=VAL(A$):IFA<1ORA>9THEN1030
1140 G=7:GOSUB1700:PRINT"DIR:"PRINT:PRI
  NTTAB(15);" {LEFT}";
1150 GETD$:IFD$=""THEN1150
1160 IF ASC(D$)=13THEN1150
1170 PRINT"{UP}[RIGHT]";D$:D=VAL(D$):IFD
  <1ORD>8THEN1140
1190 WT=TI:IFB<L(WP,2)THEN1230
1200 IF A<L(WP,1)THEN1230
1210 IF D=L(WP,3)THEN1360
1230 X=A+1:Y=B+1:G=LEN(W$(WP))-1:IFM(Y,X
  )<>ASC(LEFT$(W$(WP),1))THEN1300
1240 X9=0:FORN=2TOG:GOSUB1550:IF X<1ORX>
  10THEN1270
1250 IF Y<1 OR Y>10 THEN1270
1260 IF M(Y,X)=ASC(MID$(W$(WP),N,1))THEN
  1280
1270 X9=1:N=G
1280 NEXTN:IF X9=0THEN 1360
1300 G=6:GOSUB 1700:PRINTSPC(0);:B$=STR$(
  L(WP,2)):A$=STR$(L(WP,1))
1310 PRINTRIGHT$(B$,LEN(B$)-1);":RIGHT
  $(A$,LEN(A$)-1)
1320 G=8:GOSUB1700:PRINT SPC(1);L(WP,3)
1330 G=10:GOSUB 1700:PRINT"↑"
1340 G=11:GOSUB1700:PRINT"J [RVS] NO
  [OFF]"
1341 G=13:GOSUB1700:PRINT"{DOWN}HIT ANY"
  G=13:GOSUB1700:PRINT"{2 DOWN}
  [2 SPACES]KEY"
1342 QW$="":GETQW$:IFQW$=""THEN1342
1343 G=10:GOSUB1700:PRINT" "
1344 G=11:GOSUB1700:PRINT"[5 SPACES]"
1345 G=13:GOSUB1700:PRINT"[DOWN]
  [7 SPACES]";G=13:GOSUB1700:PRINT"
  [2 DOWN][5 SPACES]"
1350 GOTO 1420
1360 IF WT<(SL*60)THENWS=100:GOTO1390
1370 IF WT<(SL*1200)THENWS=10:GOTO1390
1380 WS=5-INT((SL*1200)-WT/60)
1390 G=10:GOSUB1700:PRINT"↑"
1400 G=11:GOSUB1700:PRINT"[RVS]Y[OFF],
  [LEFT]"WS:TS=TS+WS
1420 G=17+2:GOSUB1700:PRINT TS
1430 GOTO 960
1450 PRINT"[HOME][15 DOWN]"
1460 FORX=1TO6:PRINT"[12 SPACES]":NEXTX
1470 FORG=-2TO14:GOSUB1700
1480 PRINT"[22 SPACES]":NEXTG
1490 FORX=1TO1500:NEXTX:PRINT{CLR}"
1491 POKE36879,76
1492 PRINT"[HOME][8 DOWN]{YEL}DO YOU WIS
  H TO PLAY[3 SPACES]{DOWN}ANOTHER GA
  ME? IF YOU[2 SPACES]{DOWN}DO ENTER
  Y FOR YES."
1493 PRINT"[DOWN]IF YOU DON'T ENTER N
  [2 SPACES]{DOWN}FOR NO.
1500 R$="":GETR$:IFR$=""THEN1500
1505 IFR$="N"THEN1520
1510 IF R$="Y"THEN90
1515 IFR$<"N"ANDR$<"Y"THEN1500
1520 PRINT{CLR}":POKE36879,42
1525 PRINT"[HOME][7 DOWN]{CYN}THANK YOU
  FOR PLAYING [DOWN]{YEL}WORD HUNT
  {CYN}. HOPE YOU[3 SPACES][DOWN]HAD
  FUN.
1530 PRINT"[2 DOWN][6 RIGHT]{GRN}SEE YOU
  LATER!!!"
1535 FORX=1TOS000:NEXTX:PRINT{CLR}":POK
  E36879,110

```

```

1540 PRINT"[HOME][10 DOWN]{CYN}
  [4 SPACES]END OF PROGRAM":FORI=1 TO
  1000:NEXT I
1541 PRINT{CLR}":POKE 36879,27:END
1550 ON D GOTO 1560,1570,1580,1590,1600,
  1610,1620,1630
1560 Y=Y-1
1570 X=X+1:RETURN
1580 X=X+1
1590 Y=Y+1:RETURN
1600 Y=Y+1
1610 X=X-1:RETURN
1620 X=X-1
1630 Y=Y-1:RETURN
1650 PRINT"[2 RIGHT]";:IFY=1THENPRINT"
  [A]";:GOTO1670
1660 PRINT"[Z]";
1670 FORX=0TOS-1:PRINT"*";:NEXTX:IFY=
  1THENPRINT"[S]":RETURN
1680 PRINT"[X]":RETURN
1700 PRINT"[HOME]"TAB(14);:FORX9=1TOG:PR
  INT"[BLK]{DOWN}";:NEXTX9:RETURN

```

UNDERLINE = SHIFT,  
 [ ] = COMMODORE KEY,  
 { } = SPECIAL.  
 REFER TO LISTING CONVENTIONS

### Program 2: Word Hunt - 64 Version

Substitute the following lines into Program 1 for the 64 version.

```

4 POKE53280,0:POKE 53281,0
10 PRINT{CLR}":PRINT"[7 DOWN][10 RIGHT]
  [DOWN]{RVS}QQQQQQQQQQQQQQ QQQQQQQ"
11 PRINT"[RVS][10 RIGHT]Q[18 SPACES]
  Q"
12 PRINT"[RVS][10 RIGHT]Q[5 SPACES]W
  ORD HUNT[4 SPACES]Q"
13 PRINT"[RVS][10 RIGHT]Q[18 SPACES]
  Q"
14 PRINT"[RVS][10 RIGHT]QQQQQQQQQQQ
  QQQQQQQ Q[OFF]"
90 POKE53280,4:POKE53281,1:PRINT{CLR}
  [DOWN]{BLU}WHAT SKILL LEVEL"
295 POKE53281,1
300 PRINT"[RVS]{BLU}{CLR}[6 DOWN]
  [10 SPACES]THAT'S ENOUGH WORDS!
  [10 SPACES]"
310 PRINT"[RVS]{PUR}[5 DOWN][10 SPACES]P
  LEASE BE PATIENT...[10 SPACES]"
320 PRINT"[RVS]{BLK}[4 DOWN][9 SPACES]I'
  M MAKING THE PUZZLE[9 SPACES]"
430 PRINT{CLR}THIS LIST OF WORDS WILL N
  OT ALL FIT
775 POKE53280,7
780 PRINT"[BLU]{CLR}[5 DOWN]{RVS}READY"
790 PRINT{GRN}[5 DOWN][9 RIGHT]PRESS AN
  Y KEY TO PLAY"
810 POKE53280,1
1480 PRINT"[41 SPACES]":NEXTG
1491 POKE53280,4:POKE 53281,6
1492 PRINT"[HOME][8 DOWN]{WHT}DO YOU WIS
  H TO PLAY ANOTHER GAME?:PRINT"
  [DOWN]IF YOU DO, "
1493 PRINT"ENTER Y FOR YES.":PRINT"
  [DOWN]IF YOU DON'T ENTER N FOR NO."
1520 PRINT{CLR}":POKE53280,2:POKE 53281
  ,10
1525 PRINT"[HOME][7 DOWN][4 RIGHT]{WHT}T
  HANK YOU FOR PLAYING [YEL]WORD HUNT
  ."
1527 PRINT"[2 DOWN]{WHT}[10 RIGHT]HOPE Y
  OU HAD FUN!!"
1530 PRINT"[2 DOWN][11 RIGHT]{WHT}SEE YO
  U LATER!!!"
1535 FORX=1TOS000:NEXTX:PRINT{CLR}":POK
  E53280,6:POKE 53281,6
1541 SYS 2048:END

```

UNDERLINE = SHIFT,  
 [ ] = COMMODORE KEY,  
 { } = SPECIAL.  
 REFER TO LISTING CONVENTIONS

# Don't use it for a bush barbie

## Calc Result Spreadsheet

In a recent survey it was announced that many Australian businessmen thought a spreadsheet was something you took into the bush when you were having a barbie. Which says something for the current level of computer literacy in God's Own Country.

It has been said, and we believe it, that VisiCalc was and is responsible for the sale of more microcomputers than any other program in the world.

Since VisiCalc there have been many imitators - some showing great improvements, some showing only cosmetic changes.

First of all, what is a spreadsheet?

It is probably the best management tool currently available.

Forget computers for the moment. Imagine an immense piece of graph paper over a metre wide and a metre deep. Or, in the system we are going to review in a moment, 63 columns wide by 254 columns deep.

As the manager of your company you want to know what your cash flow is going to be like.

Profit is a very good thing, but as any businessman will tell you it is cash in the hand that counts every time. Take our word for it that you can still go belly up when making a profit. It happens all the time.

Across your graph paper from left to right you pencil in January to December 1984, then January to December 1985 and then (although we are getting into fairyland now as far as cash flow accuracy is concerned) January to December 1986. We have 63 columns to play with and we still have used only 36.

Now down the left hand side of the graph paper write in your sources of income. Indicate as accurately as you can right across your three year stretch of paper when the income will actually arrive. Don't be over optimistic and always allow for Murphy's Law. Run a sub-total line under that which we will call "A".

Directly underneath put in the costs of the goods that you manufacture.

That includes raw material bought in and the cost of manufacturing. Put the costs in the relevant month when you should pay these bills. Don't be over eager and pay inside your credit limit. Don't risk having the bailiffs in, either.

Make a sub-total line under every month which we will call "B".

Directly underneath that, list cost of sales, which will include advertising and promotion, and insert the figures on the dates they will have to be paid. Another sub-total line which we call "C".

Underneath list all your standing expenses, your fixed overheads. Include electricity, telephones, bank charges, salaries, salary tax, insurance - everything including the kitchen sink and don't forget a salary for yourself. And then extend it across three years in the appropriate months. This gives you a line of sub-totals which we call "D".

Looking vertically down each month you can make a simple formula,  $A-(B+C+D)$ , and that will show you how much cash you should have left at the end of the month (either as a plus or a minus quantity).

You can now perform this function for every one of the 36 months and your bottom line shows your individual cash flow forecasts for each month. (It is a wonderful reflection on the perennial optimism of human nature that as the months go by so the prospects look rosier. Equally, have you ever heard anyone report on the fifth year of a "Five Year Plan"? Never.)

As a final step, you can carry forward the balance from month to month so that at the the end of the three years you will be wondering what to do with half a million dollars. (Chance would be a fine thing.)

That is your basic Cash Flow Forecast performed on a spread sheet.

Note we suggest that you do it in pencil, because you are bound to find out when you have finished that you have left out something vital. Then you will have to erase the incorrect figures, insert the correct figures and do all

your calculations again.

Done this way it takes, literally, days, and creates nervous tension, headaches, bad temper and other nasty things.

To the rescue comes the computerised spread-sheet.

On it you can do all of the above and the calculations will be done automatically for you.

You have forgotten a line - you can insert one and all the calculations will be done afresh.

You need to delete a line - no bother.

You wonder what will happen if raw materials go up 15% in October. Instantly you will have the answer.

If you have ever done a spread sheet manually you will know that all the Calc programs (a new generic name we have just invented) are the answer to a businessman's prayer.



### Calc Result - Commodore 64

For the Commodore 64 there is available Calc Result by "Handic Software ab" which is (such is the internationalism of Commodore) a Swedish company. All programs since VisiCalc have tried to improve on what was possibly the world's most brilliant and innovative piece of programming.

One major area of improvement has allowed you to alter the width of the vertical columns. The great advantage here is that the left hand column can take up to 24 characters with titles such as



POWELL PR COMPUTER CAPERS PTY. LTD.

CASH FLOW ANALYSIS 1984

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT.	OCTOBER	NOVEMBER	DECEMBER
<b>INCOME</b>												
DIRECT SALES	3128.00	3145.00	2567.00	1253.00	2612.00	2312.00	3121.00	1321.00	2923.00	2763.00	2145.00	1231.00
EXPORT SALES	7132.00	6421.00	3128.00	8763.00	6321.00	7563.00	7644.00	8231.00	7123.00	6547.00	9213.00	1362.00
COMMISSION INCOME	1436.00	1632.00	1769.00	1487.00	1399.00	1543.00	1623.00	1289.00	1263.00	1327.00	1421.00	1321.00
RETAINERS	2300.00	2300.00	2300.00	2300.00	2300.00	2300.00	2300.00	2300.00	2300.00	2300.00	2300.00	2300.00
UNSOLICITED GIFTS	8352.00	7345.00	6432.00	7231.00	2310.00	1321.00	2315.00	3214.00	3210.00	2317.00	4132.00	1365.00
<b>TOTAL INCOME</b>	<b>22348.00</b>	<b>20843.00</b>	<b>16196.00</b>	<b>21034.00</b>	<b>14942.00</b>	<b>15039.00</b>	<b>17003.00</b>	<b>16355.00</b>	<b>16819.00</b>	<b>15254.00</b>	<b>19211.00</b>	<b>7579.00</b>
<b>EXPENDITURE</b>												
RAW GUANO (PURE)	213.00	236.00	321.00	324.00	234.00	213.00	312.00	123.00	345.00	261.00	391.00	237.00
FISH MEAL (GRADED)	191.00	145.00	172.00	163.00	108.00	97.00	108.00	112.00	103.00	132.00	122.00	125.00
NATURAL FERTILIZER	78.00	103.00	96.00	137.00	423.00	87.00	98.00	189.00	173.00	154.00	213.00	298.00
MUSHROOM COMPOST	198.00	173.00	187.00	192.00	185.00	198.00	178.00	189.00	187.00	169.00	198.00	218.00
<b>TOTAL EXPENDITURE</b>	<b>680.00</b>	<b>657.00</b>	<b>776.00</b>	<b>816.00</b>	<b>950.00</b>	<b>595.00</b>	<b>696.00</b>	<b>613.00</b>	<b>808.00</b>	<b>716.00</b>	<b>924.00</b>	<b>878.00</b>
<b>OVERHEADS</b>												
RENT (MLC CENTRE)	3760.00	3760.00	3760.00	3760.00	3760.00	3760.00	3760.00	3760.00	3760.00	3760.00	3760.00	3760.00
RATES	320.00	320.00	320.00	320.00	320.00	320.00	320.00	320.00	320.00	320.00	320.00	320.00
ELECTRICITY	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00
DEODORANTS (BULK)	132.00	132.00	132.00	132.00	132.00	132.00	132.00	132.00	132.00	132.00	132.00	132.00
SALARIES	86.00	86.00	86.00	86.00	86.00	86.00	86.00	86.00	86.00	86.00	86.00	86.00
DIRECTORS SALARIES	8360.00	8360.00	8360.00	8360.00	8360.00	8360.00	8360.00	8360.00	8360.00	8360.00	8360.00	8360.00
DIRECTORS EXPENSES	1432.00	1326.00	1312.00	1269.00	1532.00	1873.00	1563.00	1892.00	1572.00	1863.00	1723.00	1897.00
BANK CHARGES	485.00	485.00	485.00	485.00	485.00	485.00	485.00	485.00	485.00	485.00	485.00	485.00
DANCING GIRLS ETC.	1200.00	1200.00	1200.00	1200.00	1200.00	1200.00	1200.00	1200.00	1200.00	1200.00	1200.00	1200.00
<b>TOTAL OVERHEADS</b>	<b>15860.00</b>	<b>15754.00</b>	<b>15740.00</b>	<b>15697.00</b>	<b>15960.00</b>	<b>16301.00</b>	<b>15991.00</b>	<b>16320.00</b>	<b>16000.00</b>	<b>16291.00</b>	<b>16151.00</b>	<b>16325.00</b>
<b>TOTAL OUTGOINGS</b>	<b>16540.00</b>	<b>16411.00</b>	<b>16516.00</b>	<b>16513.00</b>	<b>16910.00</b>	<b>16896.00</b>	<b>16687.00</b>	<b>16933.00</b>	<b>16808.00</b>	<b>17007.00</b>	<b>17075.00</b>	<b>17203.00</b>
<b>CASH FLOW</b>	<b>5808.00</b>	<b>4432.00</b>	<b>-320.00</b>	<b>4521.00</b>	<b>-1968.00</b>	<b>-1857.00</b>	<b>316.00</b>	<b>-578.00</b>	<b>11.00</b>	<b>-1753.00</b>	<b>2136.00</b>	<b>-9624.00</b>
<b>CUM. CASH FLOW</b>	<b>5808.00</b>	<b>10240.00</b>	<b>9920.00</b>	<b>14441.00</b>	<b>12473.00</b>	<b>10616.00</b>	<b>10932.00</b>	<b>10354.00</b>	<b>10365.00</b>	<b>8612.00</b>	<b>10748.00</b>	<b>1124.00</b>

DIRECTOR'S NOTE: THE RESULTS SHOWN IN THIS CASH FLOW FORECAST ACCURATELY REFLECT THE STATE OF THE COMPANY. IT WILL BE SEEN THAT IT HAS BEEN POSSIBLE TO MAKE MAJOR SAVINGS IN STAFF WAGES BY REGRADING ALL EMPLOYEES AS TRAINEES. OUR LEGAL ADVISORS DO

NOT RECOMMEND THAT WE FURTHER DETAIL THE ENTRIES UNDER EITHER "UNSOLICITED GIFTS" NOR RETAINER AS THIS MAY EMBARRASS MEMBERS OF THE PARENT ORGANISATION THAT SUPPLIES SO MUCH OF THE RAW MATERIAL THAT MAKES THIS IMPORTANT WORK POSSIBLE.

Travel and Entertainment. But unless you are Esso or BHP (and, if you are, why are you reading this?) your figures will never go beyond 8 or 9 characters.

Some of the newer spreadsheets, Multiplan is a good example, have interior sorting built-in and some allow you to frame four spread sheets at once so that you can compare like with like. Many allow you to blend one spread sheet with another.

What can Calc Result do?

Infinitely more than we imagined. You can write all the labels and values you need. You can use formulas to work out answers for you (adding or subtracting percentages), you can replicate formulas (a word which means to repeat as many times as necessary but is not in the Oxford English Dictionary) horizontally or vertically.

You can insert or delete rows or columns; you can save to disk or tape; you can move into the realms of really sophisticated mathematics using an "If-then-else" function; make deductions

from "True or False" statements. All these are relatively standard, but more than we expected in this small package.

But there is yet more. Because you can also have your figures shown to you in graph form and then print it out. And yes, you can expand the width of the vertical columns variably as you print out but not before.

The book of instructions starts off with a series of simple lessons which you must, you simply must, go through if you are to fully master the magic of this program. It does not matter how computer sophisticated you are, this little package contains many surprises. Do not imagine that, because this is a slim volume in soft binding, it is not full of surprises. It is, and they are nearly all pleasant ones.

One of the most difficult aspects of spreadsheet computer technology is teaching how to use it. This is done admirably in the small booklet. It is as good a teaching course as we have

seen for spreadsheets with the possible exception of MultiPlan which has a built-in teaching course on a disk.

One excellent advantage that Calc Result has over most spreadsheets is that when you make a wrong entry it flashes at you with an angry red and then gives you an error message so you can look up what you have got wrong.

What the book apparently does not tell you is how much of the available space you can use before running out of memory. It warns you that a disk will only hold nine different spreadsheets — but no word of how much of the sheet itself you can use at one time. On the screen on the right hand side is a number which gives the number of memory positions left to be used. Working from that we have now ascertained that a full spreadsheet would be of the order of 26 columns across (enough to have all the months for two years) and 200 columns down. This is quite amazing. We had to keep putting in overflow figures and replicating them up and down to try and

looking for a complete business spreadsheet program for your Commodore 64? One that combines power and versatility?

**Look no further**

Practicalc 64 is now available from

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getsome sort of a yardstick. With careful housekeeping you could fill every one of the boxes on that immense piece of electronic graph paper, which will give you 63 x 254 pigeonholes.

Will you ever need more? Possibly.

But if you do you should be using the Commodore 700, reviewed below.

## Calc Result - Commodore 700

From the same Swedish manufacturers of Calc Result for the Commodore 64 comes Calc Result for the Commodore 700. Are there, you perceptively ask, any major differences?

After all, the Commodore 700 is the state of the art office machine and the Commodore 64, according to Commodore, but not us, is a hobbyist machine and is not intended for businesses. (We would be very happy to use the Commodore 64 for business with very few modifications indeed, and we would not be at all surprised if those modifications became available in the very near future).

The big brother Calc Result consists of a plug-in cartridge and a disk. We have thought it over carefully and have decided that the plug-in cartridge is a "dongle" whose sole purpose is to stop knaves, thieves and vagabonds from copying the program. If someone

seriously wants to copy it the "dongle" will not deter them, except possibly in the program's native Sweden, a country where we have little knowledge of the computing scene.

The differences are as follows:

Three areas are used for storing information. The RAM in which all the calculations are done, which will give you about 4,000 pigeonholes (coordinates is the in phrase) to store information in. It is here that all calculations will be done.

Now we carefully quote the book: "In the Work Area, used as a temporary storing area and extra memory to the RAM. Together with RAM the work area is able to store a complete work, that is totally 32 pages". Let us pause here a moment and consider this. We have carefully checked that this program gives us on the screen 63 columns by 254 rows on a page, which is precisely the same as on the program for the Commodore 64. The book tells us that two of these pages can be stored simultaneously in the Commodore 700's RAM - which seems logical. Now if there is a Work Area of 32 pages, that works out at 64 x 64 K of RAM that nobody told us about. We therefore must assume that the work disk is providing all this extra memory and that it is but a way station for information before it is downloaded permanently on to a data disc. For a moment they had us all excited.

You can split the screen into four different screens for comparison purposes, you can perform several functions extra to those listed above and you can transmit the data using an RS 232 interface.

Otherwise it works in much the same manner as the smaller version for the Commodore 64.

Have we mastered all its intricacies?

Not yet? This magazine has to be published this year.

Is it superior to Visicalc, which is also available? Probably. Because it is third generation, contains built-in error messages, works with a hard disk, is suitable for multi-user providing they all have a dongle. And you can take the information off in DIF (a splendid little acronym for Data Inter-change Format) which means that you can transfer the information from this spreadsheet to other spreadsheets (and vice versa) as well as to programs which can help you manipulate the figures into different forms.

Is there anything wrong with the program? Yes. The manual. This is all very subtle, but it was either written by a Swede who is fluent in English or it was translated in Sweden. In fairness, one of the toughest manuals we ever had to conquer was the original VisiCalc which was a killer. This is better. But it imputes a knowledge about computers to the user that may not be there. □

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#### The Australian Commodore Review

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# Getting this headline korekt: Easy Spell

The first point about this program is that it is slower than death. Why, I know not. Similar programs on other micro word processors work much faster, and it may be that the programmer (Simon Tranmer, also responsible for the superb Easy Script reviewed elsewhere) was simply out of his depth.

The basis on which the system works is simple enough. And if you have all the time in the world, and preferably two disk drives, there is no doubt it will correct all those words you have been misspelling for years. (I have spelled "seperation" that way for three decades in the fond belief that I was right and everyone else was wrong.)

To use it, you first load the dictionary program, which by my stop watch took 1 minute 12 seconds. Then insert the text file - 2 minutes 22 seconds to load less than 3,000 words. Then insert the dictionary disk - 2 minutes 56 seconds to load 20,000 words. Which may sound a lot of words but isn't. 40,000 words are quite common in dictionaries of this type. Indeed, I hope to build up my own version to those rare-fied heights.

If you are still with me, the diction-

ary disk is then replaced by your text disk which is slowly read. Although I did not have a large number of corrections, this took 7 minutes 5 seconds.

A big plus point is that you can do the corrections as you go along. A big minus point is that the text file has to be accessed every few seconds or so because we are plainly running out of memory, and this is one of the reasons for the slow death march through the text.

Having gone laboriously through your document you can, if you wish, add words to the dictionary - those which appeared in your text, which the dictionary does not recognise and which you feel are highly important. For example, "hoddy doddy" meaning a short dumpy boring person. This only takes 16 seconds - about a second a word.

By the time you have finished you have spent the best part of a quarter of an hour on proofreading and correcting a document which is only 3,000 words long. True, two disk drives would speed the situation up, but not, I think, by any great margin.

Give the man his due, he has allowed us to back up his dictionary disks and I have managed to work out the

sort of individual dictionaries that I need for different tasks.

Because to my utter astonishment we are offered blank dictionaries to purchase. With money. Any reasonably serious user of computer operated dictionaries rapidly builds up a collection of specific dictionaries for specific tasks. For example, I am a travel writer and my area is Asia. For travel I need a dictionary that accepts words like Guangzhou and Beijing. For computers it has to accept words like baud (not in his dictionary) and byte. And so on. The thought that one should pay extra for blank dictionaries shocks my Welsh Calvinistic heart. The fact that, as I understand it, these disks are produced by the author's brother John is not an extenuating circumstance.

The documentation is an improvement on Easy Script - they have got rid of all those nasty capital letters - but the type is still too wide to read easily.

If the program was five times as fast one could recommend it wholeheartedly. As it is, the only major use I can see for it is proofreading books and theses where the operator has all the time in the world to consider the meaning of life.

For businessmen and working journalists (not in itself a contradiction in terms) the lack of speed is a killer. I have just tested this document against another dictionary produced by Sensible Software, which whipped through the copy in a quarter of the time.

I look forward to Simon Tranmer painting two go-faster stripes down his diskette, fitting twin carbies and alloy wheels and making the program move. Time is of the essence.

PS. As I was replacing the dictionary disks in their envelopes a slip of paper fell out. It suggested that I should join the "Precision Software Club" which has a newsletter called "Precis". It says "New ideas and short cuts are being thought of all the time". I should hope so. □



# The moving finger . . .

## Easy Script

by Gareth Powell

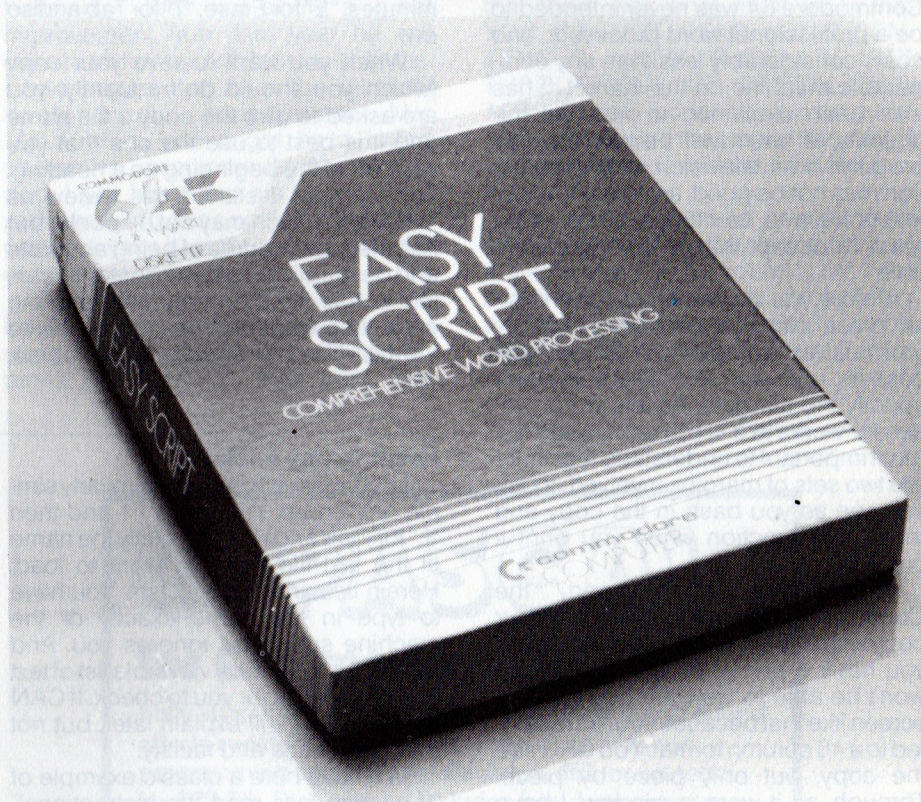
As this is the first issue of the Australian Commodore Review, it is singularly appropriate that this review of Easy Script should be written on a Commodore 64.

I am writing the review lying in bed suffering from a virus and the results of overindulging the night before. I am not, you may take it, at my sunny best. Which brings us to the first splendid aspect of this particular word processing set-up—you can use it while lying in bed. The monitor is ensconced on a bedside table, the keyboard resides on my somewhat disturbed tummy, the book of instructions lies open on the bed beside me next to several bottles of vitamins which, my wife assures me, will have me on my feet in no time. It is not that I intend to be a permanently bedridden computer hacker, but there are many less pleasant and more difficult ways of writing a review.

The program I am working from is on diskettes, and for some reason there is no automatic boot. Instead you have to type in "LOAD"0,8,1", an unmitigated nuisance and slovenly programming. It has been patiently explained to me by David "Old China Hand" Harvey that this is the standard way to boot a program. But I cannot see why the program should not have an automatic boot and I have still to be convinced. This problem does not, of course, exist with the cartridge version.

Once booted the program takes a fairish time to load, during which there is a technicolor display on the monitor which lets you know that everything is working. The actual time it takes to load is very similar to other microcomputer based word processing programs—perhaps a fraction longer—but as the screen is flashing at you all the time you never have the awful feeling that the system has hung and nothing is happening.

The first screen comes up with four default lines to adjust the program to your particular hardware system. In



most cases you just tap return three times and you are then in the Edit mode. Which means you can start writing letters. Speaking as one who has suffered, take my word for it that this is one of the simplest ways to enter a word processing program that exists. Anyone who has had to struggle with the la-byrinthine, archaic, antediluvian and deliberately obscurantist "WordStar" will know precisely what I mean.

### Technicolor

Once you have got to this stage the fun and games start, because the programmer has very cleverly allowed you to choose the colours you work with and change those colours when

you feel like it. At the moment I have a dark brown border, a pale brown background and white lettering. Which accurately reflects my current jaundiced view of life. Later, as I perk up a little with a health-restoring Victoria Bitter I may well change the colours to something a little more snazzy.

These colour changes are a good thing, as the design of the letters themselves leaves much to be desired. They are perfectly fine if you just want to dash off the occasional letter. But if you are churning out thousands of words a day they could become a little tiring.

Bear in mind that I normally work with what is referred to as a "dedicated" word processor. (Who thinks up these names? Who in God's name coined

that contradiction in terms, "ethical" drugs? But I digress.) This dedicated word processor, a Wang, has a screen with elegant, well-defined characters, and a day sitting in front of it does not result in a headache. I am not sure that I would like to face writing "War and Peace" with Easy Script. But then, the Commodore 64 was never intended to be a professional word processor, and costs considerably less than any comparable machine on the market. It has also been explained to me that the majority of users will be running this program on a television where resolution may not be good, and therefore the letters have to be chunky to be easily read. I'll accept that. It seems reasonable.

Before you start writing your immortal prose into the electronic memory you must, as is normal with all word processors, give your text file a name and specify the margins. As this word processor works in a 40 column mode it is most important to understand that there are two sets of margins involved: those you see as you bash in the copy and those that function when you print it out.

With Easy Script and the Commodore 64 you can print out your copy with a 120 column width providing you have a printer to take it. But you won't be able to view the copy on the screen like that because you are restricted to a 40 column format. You CAN see the copy, but only piece by piece. Through, as it were, a window. I have never found any problem with this in all the different types of word processing systems I have used, and until Cinemascope monitors become widely available we will have to work with what we have. It is truly no hassle.

When you complete a quantity of text you save it. I have a theory that the best way to write anything is to blast it all in with a burst of energy, save it and then go back and rewrite and correct. I am certain you waste a lot of time and energy if you correct as you go along, although I am only judging by my own experience. BUT, I have learnt from bitter personal traumas that you cannot save your copy to disk too often.

I work on roughly a page of quarto, about 300 words, before I zap it on to a disk. And I keep back-up copies with religious zeal.

On the Commodore 64 this is very simple to do. At all times at the top of the

screen you have a line telling you what mode you are in. Normally you are in the Edit mode. By touching F1 you change the mode to Command, and you can then type in a variety of command letters which have been chosen so that you can remember them without having to turn to the handbook every five minutes, "E" for Erase, "T" for Tab and so on.

When you want to save your copy (which you should do frequently) you are asked to give the copy a file name and it is best to use the one that you wrote in at the beginning as a heading. For example, I started this review as "1 Review" which may not be poetic but has the saving grace of being accurate and descriptive. As I am constantly saving to this file the computer asks me each time whether I want to overwrite the last file. The answer is, of course, yes.

### Loading (my mistake)

Loading a program is a similarly simple procedure. You press F1 and then "L" for load and type in exactly the name of the text file that you want to load. Herein lies another criticism. You have to type in the name exactly or the machine sulks and ignores you. And yet there is no readily viewable list of text files on the disk for you to check. It CAN be done, as I will explain later, but not with great ease and facility.

(We have here a classic example of "if all else fails read the instructions". Having used a large number of word processors I skimmed the early chapters with a light contempt. Rereading I find to my shame that loading a text file from a disk is, in fact, ludicrously simple. And you do not have to key in the name of the text file or even remember it. All you have to do is press F4 which puts you in the disk mode. Type in "+\$8" and there before your very eyes is the disk directory. At the same time you have returned to the Edit mode with the disc directory in front of you. Using "L" for Load you can then alternate between F1 and F2 until the text file you want is lined up. Press return and your file is loaded. It really does pay to read the instructions.)

When you are in the Command mode you can use "I" to allow you to Insert new copy. This is most useful when you find, as I invariably do, that you have left out some crucial informa-

tion. Indeed, when I review my own copy for errors of fact and omission, I keep Easy Script permanently in the Insert mode because it is much more convenient for editing.

While you are writing and editing happily away you can keep an eye on the state of the game by looking at the top indicator line which now tells me that I have written 231 lines. Useful to know when you are trying to write copy to fit a page.

### Formatting

The hardest part of word processing is formatting, that is, making sure that what appears on the printer is what you had in mind.

In this Easy Script, like the curate's egg, is good in parts. Good because the use of F3 gives a command signal that makes all that follows it on that line a formatting instruction.

You can centre headings, put in Headers and Footers on every page, number pages, merge documents, search and replace words and all those other good things we have come to expect from word processors. The Search and Replace facility is particularly useful for bone idle journo's like myself. Before writing I decided that I would be using the words "Easy Script", "word processing" and "word processor" extensively. I therefore typed "x" wherever I wanted to say Easy Script, "wp" instead of word processor and "wg" instead of word processing. Then at the end, I ran through with search and replace, thus saving myself a large amount of typing time.

Where Easy Script is not ideal is that it does not have a format line that can tell you precisely where you are setting everything. You can, of course, work it out by checking the character number, shown in the top right hand corner of the display line next to the line number. You can have a visual interpretation of the finished product by using F1 then "o" and "V" to show you how the final copy will be paginated. But you don't feel as relaxed about it as you would with a control line showing you exactly where you had inserted your tabs, exactly where the lines ended, exactly how many characters you had typed in.

Another complaint—a minor one—is

that you cannot, as far as I can ascertain, alternate the positioning of headers and footers from left to right with odd and even pages. This is only important when you are writing a book or a long thesis, but if it is not there when you need it there is no doubt you will feel annoyed. And quite right too. instructions is wrong the program will detect it and give you an very helpful error message so that you can set things to rights.

I learned to use Easy Script well enough to write this article within half an hour or so. For a word processor that is very close to miraculous.

Plainly, there is much more to this program than I can write about in a simple review.

For example, its ability to do a "scissors and paste" job is outstanding - nearly as good as that on the Wang. If you are writing longish articles that need extensive re-editing (and all mine do) then this facility is worth the price of admission alone. You can also construct a series of mini-programs that will produce all the printing format characters for you on request, so that once you have got a set-up sorted out to your satisfaction, you can call it up with a single key stroke.



## Detecting errors

What Easy Script does have, which makes it superior to any other word processor we have tested, is an error trapping routine. If one of your format

There is also a system for constructing a mailing list. With it you can write a form letter on one file and a list of names, addresses and salutations on another. These will be melded together and if you have continuous stationery you can run out 500 letters a day with ease. (It is almost the same as the mailing list on the "Zardax" word processing system written for another machine which shall be nameless, Apple.)

But be warned that it requires meticulous attention to detail to work properly. You must have EXACTLY the same number of lines for each address or you will end up sending

form letters addressed to "Dear Ms NSW 2000". It has happened to us.

The handbook is written with a Pommie sense of humour. The sample letter reads, in part:

"I note with some trepidation that you are bringing your Alsatian dog, Caesar. I must emphasize that if his behaviour does not show a great improvement from last year he will have to be kept out of doors at all times. I had hoped that after the incident involving our housekeeper, Mrs McLaughlin, you might have found alternative accommodation for the dog. I just hope that his barking and pitiful howling does not keep the other guests awake at night, again." Straight out of "Fawly Towers".

Proofreading in all instructional books is very important. When you want to print out from Easy Script you press F1, then "O", then print. The

book, "Learning to Use Easy Script", page 2-9, paragraph 2.3.4. line 4 says press "O"; a totally different key. This is extremely unhelpful and for absolute beginners could be damn near disastrous. Tut, bloody tut.

A final point about the handbook. The designer (and I have my doubts that there was one) must learn that YOU CANNOT READ LONG SENTENCES WHEN THEY ARE SET THROUGHOUT IN CAPITAL LETTERS. People just don't read that way. And to use a type measure more than 6 centimetres wide makes text difficult to follow.

Apart from the minor points raised and the problem with the definition of the lettering, this is probably the best micro-computer word processing program I have ever tested. Simon Tranmer, who operates from Surrey, may take a bow. □

# G-PASCAL

## for Commodore 64

Fully supports the Commodore 64's graphic and sound effects capabilities in a self-contained, easy-to-use programming package. Available on disk or cassette for \$79.50. Disk version includes free demonstration program and arcade game, written in G-Pascal.

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# Superbase - a database for all reasons

Databases have their own mystique, their own buzz words, their own priest-hood. They are a cult within a cult, yet the basic premise on which a database is built is a very simple one. It is purely and simply an ultra-fast, ultra-effective, capacious filing system that happens to work in a computer instead of a tall cabinet with drawers that slide in and out.

A good database must have certain key factors built in. Without these key factors it is less than ideal. And from a wide experience with databases we can say there are many that are less than perfect.

The key factors are:

1. It must be easy to understand. Using the analogy of a filing cabinet again, you can see that the system can be made totally useless if one user sets up a system that is not immediately obvious to every other potential user. It is worth noting that many filing cabinets are, in fact, set up so that only one person knows how to use them, making that key person totally indispensable. We can think of several examples.

It is perfectly okay to sell a database which requires further intelligent programming, providing every potential purchaser is told this clearly. Regard then the case of dBase II, probably the largest selling database in the world. It has an unbelievable range of programs that have grown up around it which make it relatively simple to use. It is just possible for an amateur user to work out the intricacies himself and tailor the database to his own use. But the cost in time, false starts, and headaches is something we can all do without. Ideally, dBase II is adapted by an experienced person, not necessarily a computer programmer but someone with a clear idea of systems analysis, and becomes a turnkey operation working purely from menus which are perfectly understandable without the use of any text book.

If the originally designed intent of a database is that it should be rewritten

by such an expert, then a fair amount of in-phraseology is allowable in the operating manual.

If the originally designed intent of a database is that it should be understood by an absolute beginner, the operating manual must be a series of logical steps to show the user precisely how to get the database working in the format required.

2. A database must interrelate with as many other kinds of programs as possible. Again we can look at our filing cabinet. The filing system should produce all the information required on a given subject and in such a form that it is easily integrated with other forms of information. Filed correspondence must show correct addresses and titles and the history of the subject, and must relate to any new information that arrives in the mail and through internal memos. The same is true with a good database - which provides all this and much more.

The ultimate - and this is already partly available in some forms such as the "Silicon Office" - is a database which very simply interrelates with both a word processing system and a spreadsheet and, possibly, an accounting system. In some cases it is possible for the database actually to become a major part of the accounting system - more of this later.

3. A database must be extremely quick and helpful in finding the information you require. In our filing cabinet we must be able to find the right file in the shortest possible time, without having to rifle through every file in the cabinet. If you have to do that you may just as well keep all your letters and invoices in cardboard boxes in date order of arrival.

4. A database must be adaptable. It must be possible to amend it so that it precisely fits your requirements. You should not, as is true in so many cases, have to change your methods of working merely to suit the database. That is truly a case of the tail wagging the dog.

Let us now look at "Superbase"

bearing these points in mind.

"Superbase" comes from Precision Software, the same software house that produced "Easy Script" for the Commodore 64 and the enhanced version "Superscript II" for the Commodore 700 series.

The question before the house is: does "Superbase" fulfil all the criteria listed above? The answer is a qualified "yes". Why, we shall now attempt to explain.

## 1. It must be easy to understand.

In the introduction to "Superbase" the authors say: "Many owners will not have used a Database Management System before. Some will have bought their Commodore especially for using "Superbase" and may not have any experience with computers."

We can therefore take it that the authors clearly intend that Superbase can be set up by the first time user. Certainly right from the very beginning the documentation works on the basis that you are reasonably bright but know little about computers and less about databases. Full marks for that. And they keep to this very high level of technical writing throughout their training section, with only very occasional slip-ups. For example on page T-5 you come across the phrase "Data Corruption" with no prior explanation. To an absolute beginner "Data Corruption" may be what authors do to their novels to make them filthy reading. Who knows?

A side issue here. Precision Software and many other software houses have fallen into a system of numbering reminiscent of the Public Service. The Tutorial pages are numbered T-1 up to T-52, understandable even though it sounds like armaments for Vietnam. The Reference section logically follows on with R-1 to R-81.

But the paragraphs are numbered so that 9.1.1. is OBTAINING THE FILE OPTION. You in your sublime ignorance may think this is the first paragraph of section 9. But you would be



wrong.

9 is a heading, FILE.

9.1 is the next paragraph, an overall view called FILES AND DATABASES.

9.1.1. is a subsection of 9.1 and, before you ask, there is no 9.1.2.

What follows is 9.2 which is CHANGING FILE BY DIRECT OR PROGRAM DEMAND.

There is no doubt splendid logic behind all of these numbers and probably it was all agreed at an international convention which we were not invited to attend. But anyone who thinks it is easy to follow would no doubt have succeeded in the higher ranks of the Indian Civil Service during the full flowering of the British Raj.

"Data corruption" is no doubt a perfectly valid term for anyone who is heavily into computers and databases. We are. And we have thought very carefully and come to the conclusion that we do not know exactly what it means. If we do not, what chance has the poor beginner?

By and large, and excepting quibbles such as these, the rest of this early tutorial is exemplary and we followed it with care to set up a database of addresses, an address book inside the computer. (It is a minor quibble that the address layout suggested is only suitable for Britain. It is but a moment's work to rewrite it to accommodate the full glory of the Australian Postcode system).

A nice touch which indicates the thought that has gone into this program is that when you set up a line (a "field" in databases, a new word we have coined) to take a date, the program doesn't really mind how you type in the date. It will accept 12jan84 or jan1284. It sorts it out with the month in capitals and the day of the week displayed at the top of the screen. Now that is user-friendly.

If you mess up the date (and how many times do we do that?) the fact that the day is automatically shown

may help you spot your error.

The training section shows you how to riffle through the files (though why you should wish to do that beggars the imagination) and shows you how to retrieve files using a key word.

In the same way that you would file a letter from "Commodore" alphabetically under "C" and would know instantly how to retrieve it, so does "Superbase". It then proceeds to imitate human intelligence a step further.

For example, supposing you misspell it "Comodore", the database will select the file nearest to that spelling and exhibit it on the screen with the phrase "partial match". Which is almost precisely what you would do if you were searching through a filing drawer. Where this database starts to outstrip the filing cabinet is that you can also search for the same address using different key words or phrases.

Supposing you want the name and address of a printer who delivers work on time (a rare beast, but they do exist) □

# Amazing software from SPS

## CYBERWORLD

**T**his five screen arcade adventure packs the computer with amazing graphics and sound. You are a special Cyberleague agent in a universe full of hostile aliens and vicious robots. Joystick and keyboard transport you through 3D rooms, space barriers, fleets of invaders and warship ridden quadrants of space.

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you can use a "match data" option which will show you the cards of every printer you have listed in your address book. If you can't make up your mind whether you want a printer or a binder you can enter printer/binder and "Superbase" will whip through its filing system to find the answer or answers.

The tutorial system carries on to show you how you can use "Superbase" to set up a records system for a company which becomes, in effect, an accounting system in its own right on a fairly simplified basis. "Superbase" has built-in a calculating facility which allows it to perform calculations on any field that is set up or, even more interestingly, to combine those calculations together from different fields.

A simple example is that from a set of sales records entered into the database it can produce net sales at the end of any given period and can analyse those sales to the extent that they are analysed on entry.

Therefore as far as the Training section is concerned there is no doubt that "Superbase" is as easy to understand as any database we have tested. Those of you who are sceptical about these things are asked to read the handbook on dBase II and then tell us what it is all about.

### **2. A database must interrelate with as many other kinds of programs as possible.**

We know that "Superbase" interrelates with "Superscript II". We know because someone told us. After carefully working our way through the reference section we came across 8.11 (those Public Service numbers again) which told us "Superbase" is designed for integration with word processing packages, "Superscript" in particular. Integration is achieved by out-putting data (in CBM ASCII code) from a "Superbase" file into a file that can be read by a word processor.

Up to here we are following, albeit slowly. After this we get a little lost. The next paragraph reads:

"There are 2 forms of command. The first one outputs to a file exactly as to the screen or printer, following all truncation commands. If the output is DOWN, no field names will be output. If the output is ACROSS, field contents will be output one after the other on the same line, up to the maximum specified with the right margin setting

"RMARG". The command is:

'down all to "addresses" (Name Address1)(Address2)'. This would produce a file called "addresses" containing the name and 2 lines of address from all records in a Superbase file".

Now this really will not do at all. Because if we can fight our way through that little lot—which we cannot—there is more to come.

But none of it tells us precisely what to do if we want to take all the names and addresses from a Superbase file and use them for a mailing list. And why else would one need to use a list of addresses?

There is no doubt a perfectly simple way to instruct Superbase to dump in alphabetical order a complete set of names and addresses into a word processing system (preferably Superscript II) so that a form letter can pick them up and produce on tractor stationery a complete set of beautifully printed letters. With the names and addresses all in the right place—and the salutations in correct order.

It is just that we cannot figure out how to do it.

We are willing to accept the fact that we are not that bright but we work with mailing lists, word processing systems and databases all day. And if we don't understand it after several readings, the first time user has Buckley's.



### **3. A database must be extremely quick and helpful in finding the information you require.**

"Superbase" is. It is also extremely quick and helpful in sorting out the information in any order required and (a lovely touch this) it will take the information and format into any type of report form that you have previously constructed.

You have, of course, the built-in limitations of the amount of information that you can place on a floppy disk. But if you are really dealing with a massive data base then you should be using a hard disk anyway.

### **4. A database must be adaptable.**

"Superbase" is just that. A section of the book on programming shows how "Superbase" can be tailored very precisely to fit a specific operation. We tried to see whether it could be used to set up a database specifically suited to the needs of a mail order book house, drawing its wares from a multiplicity of sources and selling throughout Australia. Involved are different discounts and different freight charges, items that are out of stock, being reprinted, or have changed price. At the same time the database had to keep a name and address file of all customers showing their areas of specific interest. It did it perfectly first time.

## Summary

There is no doubt "Superbase" is a powerful database system that can be adapted to almost any need. We have our doubts whether the first time user would be able to use the many powerful features available without some professional help. We feel that it should be sold with a note stating this very clearly. We also feel that some of the commands that need to be used are something less than user friendly, but changing these should not be a major problem.

There is no doubt in our mind that we will one day see "Superbase II" which will integrate perfectly with "Superscript" and, very possibly, several other programs. Until then "Superbase" complements and compliments the new Commodore 700 for which it was designed. □

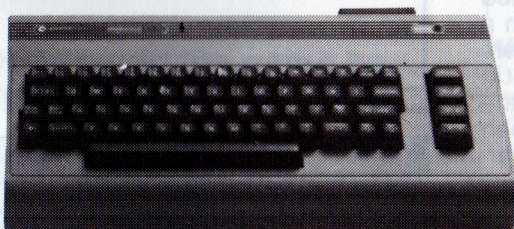


# Who's keeping up with Commodore?

The Commodore 64 is designed and priced so that you can pile on the peripherals. Like a disc drive, printer and even a printer plotter. You can own the Commodore 64 AND disc drive and printer for little more than you'd pay for many other computers alone.

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# They're getting better all the time - Games for the Commodore 64

Originally we wrote an introduction to this review which was a re-sounding broadside against some of the quite dreadful games offered to us. Since then we have had reason to modify our view.

It is important to remember that Commodore has always striven to keep a level of compatibility between all its machines so that Commodore owners (whether they started with a Pet or a Commodore 64) never felt that they were being deserted. As a result many of the original software cartridges for the Commodore 64 were adaptations of earlier software designed for machines with far less capability.

We are not excusing this, but now we have seen the next generation of software and we know that some of the material shortly coming the way of the Australian Commodore user is more exciting than anything we have seen on any microcomputer anywhere at any time. Commodore management is understandably reluctant to signal ahead of time what they have planned as they have no wish to cope with a flood of telephone calls and letters requesting programs that are not yet in mass production. But if you read the review on the music cassette, then understand that many of the future cartridges are to that standard, you have an insight as to what is in store.

Risking the wrath of the managing director of Commodore, let us describe just one of the cartridges we have previewed. It is based on soccer, that strange English game where the ball is round and kicked instead of pointy and thrown.

When the game starts, real animated figures run on to the ground. The crowd cheers and the game starts. Using joysticks you can pass, dribble, shoot, head the ball and even foul your opponent. At half time both the teams run off the field and when they come back from the dressing rooms they have, correctly, changed sides. When the game is over both teams line up and the winning team is presented



*Commodore's Magic Voice which speaks in a high pitched American female squeak*



*The Commodore joystick - not the worst joystick known by the civilised world, but not far off*

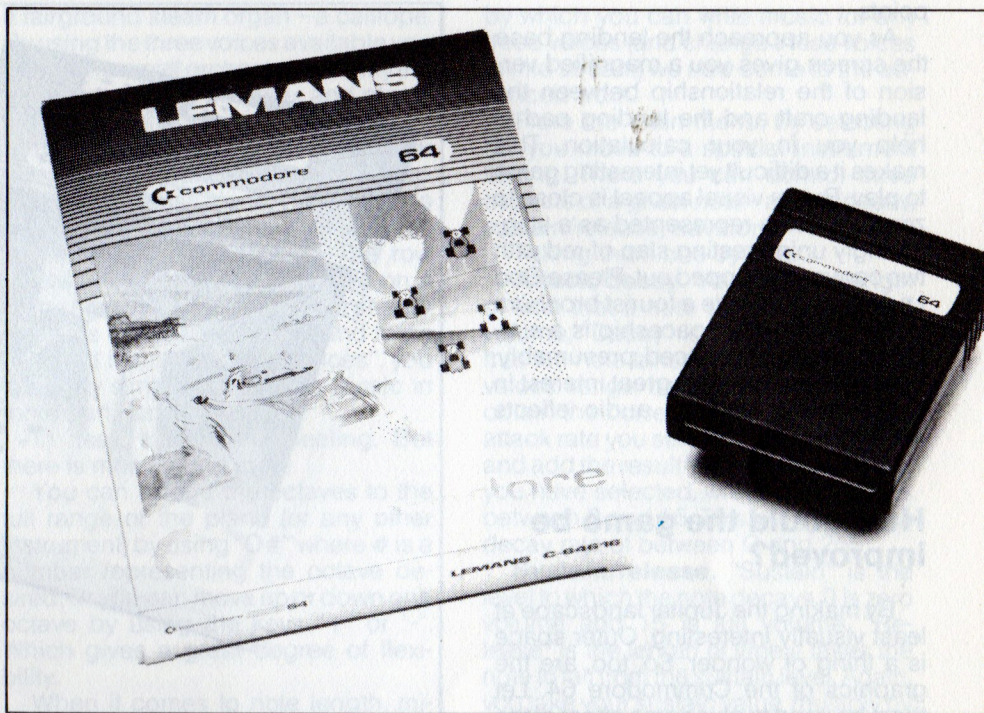


*The Commodore paddles - they're better than Apple joysticks but that's not much recommendation*

with the trophy by a female personage who, if not royal, is distinctly more regal than Margaret Thatcher.

It is a bobby-dazzler of a game and will undoubtedly sell in its thousands. At the moment there is just one copy in Australia. Do not, for pity's sake, try ordering it from Commodore until it is announced or we may shortly see a cartridge version of a new game called "Emasculate the Publisher".

Our ratings for games are similar to those used in other microcomputer magazines. Five stars is the ultimate. One star means that there is very little reason for buying it. Games are graded under "Visual and Audio Appeal" - whether it looks and sounds good, "Game Interest" - whether having got the game on the screen you feel like playing it, and "Sustained Interest" - whether you feel like playing it again and again.



## LeMans

- Visual & audio appeal ★★★★★
- Game interest ★★★★★
- Sustained interest ★★★★★

This is one of the better game cartridges we have tested. It is a simulation of Le Mans (by no means even attempting to be accurate or realistic) in which you steer your racing car through a field of fairly suicidal drivers, amassing points as you overtake each one. There are four extra hazards - a long icy patch where your paddle control becomes hypersensitive, a night tunnel where with headlights blazing you attempt to overtake and avoid other cars whose only identifying mark is white (white?) rear lights, an "S" bend which can be taken at full speed with no thought of sliding off and a length of divided highway where the passing space for your car is severely limited.

Each time you crash, or are crashed into, or leave the road, your car enters the pit area as a gray smoky blob and a few seconds elapse before it is made whole and well again (that we should have such mechanics) and you roar off in pursuit. Put like that the game sounds fairly banal. But the audio uses the full range of the Commodore 64's amazing sound system.

When you pass a racing car you get a quite genuine Doppler effect with a sudden roar and then an immediate

recession of noise. When your wheels touch the gravel the noise changes, when you are on the ice there is a hissing noise to show the lack of adhesion. Played with the volume turned right up the sense of driving a racing car at speed is quite remarkable.

### How could the game be improved?

The number of different hazards could easily be increased. As this is a cartridge game it is difficult to know how much memory is taken up, but it can't be that much. A far more graphic interpretation of the pits would not go astray. And most importantly, a further element of skill could be introduced by making the chicane, the "S" bends, so tight that the driver has to throttle back or slide off the track. These are merely suggestions. As it stands the game is good value for money and our testing panel was forced to queue to take turns.

One interesting point. The speed of the car is shown on a dial in kilometres. As with all Commodore cassettes authorship is not known, but either the game was written in Europe or it was adapted for the Australian market.

Finally, for the collection of race car illiterates who were responsible for the descriptive and helpful booklet, Le Mans is two words and refers to a 24 hour race held in France for sports cars, not race cars.

## Jupiter Lander

- Visual & audio appeal ★
- Game interest ★★★★★
- Sustained interest ★★★

This program works from the keyboard and lets you simulate landing a spaceship on three landing sites of various difficulties on the planet Jupiter. You have thrust rockets on each side and a retro-rocket to make sure you land gently. And this is the point of the game, because the landing has got to be lighter than a feather landing on a silken coverlet or the spacecraft gets zapped. It is very difficult to accomplish. A measure on the side shows whether your landing is going to be light enough (in almost every case it isn't) and the amount of fuel you have left is shown by a gauge along the bottom of the screen. The game's interest lies in the co-ordination required to land softly enough to get the required

points.

As you approach the landing base the screen gives you a magnified version of the relationship between the landing craft and the landing pad to help you in your calculation. This makes it a difficult yet interesting game to play. But its visual appeal is close to zero. Jupiter is represented as a staggeringly uninteresting slap of red with two canyons chopped out. Please God I never have to write a tourist brochure for the place. The spaceship is a simplistic drawing produced, presumably, by someone without a great interest in space travel. And the audio effects are banal.

## How could the game be improved?

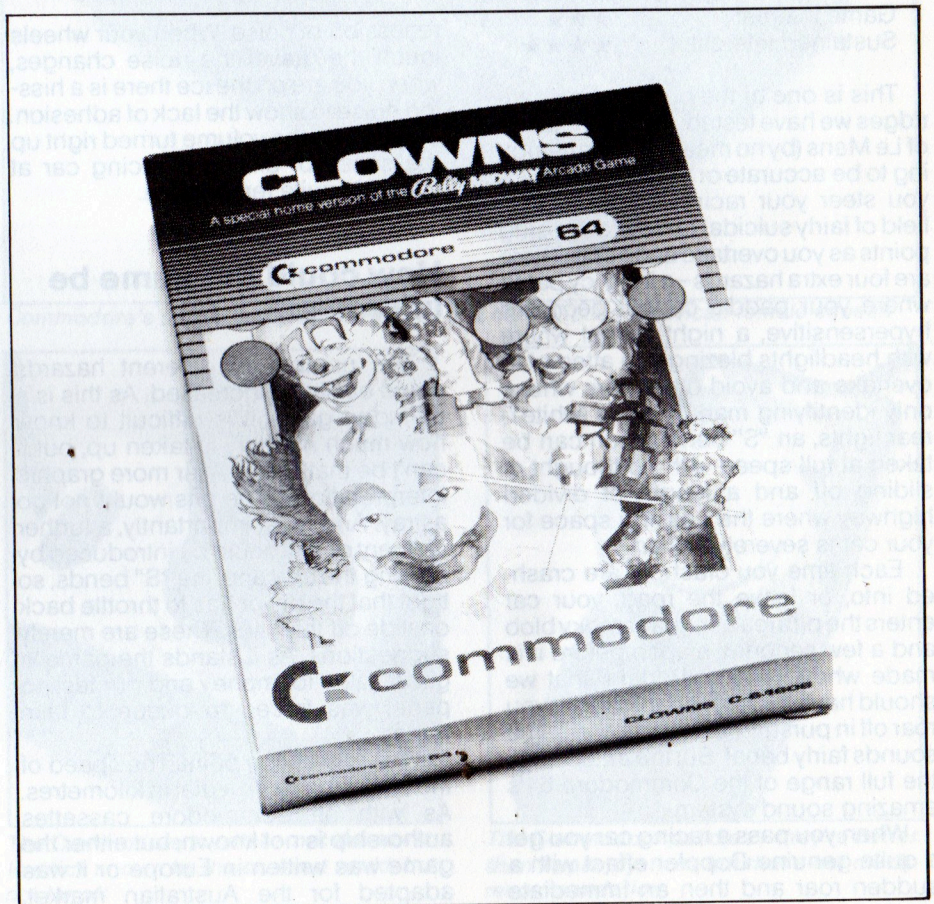
By making the Jupiter landscape at least visually interesting. Outer space is a thing of wonder. So, too, are the graphics of the Commodore 64. Let them be used to give some effect of the awesome beauty of space. And the audio could be vastly improved. All of us who have listened to live Cape Canaveral launches know that rockets don't make hissing noises. They THUNDER, they roar, they emit exciting noises. And more game interest could be added by allowing the captain of the space ship to choose the magnified screen at will.

Jupiter Lander is not a bad game. But it could be light years better with some intelligent programming.

## Clowns

- Visual & audio appeal ★
- Game interest ★★
- Sustained interest ★

Here we have two clowns leaping up and down on a seesaw trying to burst balloons over their heads. Let us accept the basic premise that this game was written for children between the ages of three and eight. Nowhere in the catalogue or in the packaging is this mentioned, but let us be generous and accept that it is self evident. Even on that basis this game is simply not good enough. The clowns are white representations of the simplest graphic form, of whom the only good thing that can be said is that they die at



regular intervals. The balloons are a monotonous regular array of yellow, green and blue. This simply will not do. It is an insult to the intelligence of the player, no matter of what age.

## How could the game be improved?

By making the clowns more graphic, or at least colourful. By adding spectacular sound effects when they miss the seesaw and land on the floor, thus zapping themselves out of the game. By making the balloons different sizes and colours. By decorating the damn things. By making them snap, crackle and pop instead of deflate with a tired hiss. By decorating the boards from which the clowns start their leap in circus colours. A circus is a carnival of music, colour and sound. This game is not. Clowns should make you laugh. Not weep for the paucity of the imagination of the program writer.

## Music composer

Visual & audio appeal	★★★★★
Game interest	★★★★★
Sustained interest	★★★★★

This is one of the most remarkable cartridges we have ever had the luck to test. It is quite magnificent. With it you can write music which makes full use of the sound capabilities of the Commodore 64. If you wire your Commodore 64 up to a good hifi system then you are in command of what can only be described as a small scale Moog synthesizer. Two weeks ago we were testing the AlphaSyntauri music system for another microcomputer. It had a proper piano-style keyboard, more facilities and a more complex play back system than Music Composer. But it was not **that** much better, as far as the amateur composer is concerned. And it cost over \$2,000.

This program is menu driven. The first menu allows you to play a sample song to get the feel of the machine. The original tune is played on a harpsichord (which is the way Johann Sebastian Bach intended it). By selecting "0" on the main menu you enter a series of instrument choices which allow you to have the tune replayed on, for example,

a fairground steam organ – a calliope. By using the three voices available you can form a small orchestra and play the same tune with a complex and pleasing overlay of sounds.

By selecting "2" on the menu you turn the right hand side of your keyboard into a small piano. The key "G" to the key "=" is a full octave with the "=" key representing middle C. The row above emulates the black notes on a piano so that you can have your sharps and flats as well. Using this and three selected instruments, or "voices", you can play simple one octave music in three part harmony.

In itself a wonderful feeling. But there is more, much more.

You can extend the octaves to the full range of the piano (or any other instrument) by using "O#" where # is a number representing the octave desired. Or you can move up or down one octave by using the keys "+" or "-". Which gives a great degree of flexibility.

When it comes to note length, minims, semibreves, demisemibreves and all those good things, then you can use "S" for a sixteenth note, "I" for an eighth, "Q" for a quarter, "H" for a half and "W" for a whole note.

Having worked out a basic notation

by which you can write music for any three voices (and change those voices in mid stream) we now come to the advanced work.

From the main menu, by selecting "3" you move to a special instrument setting. There you can control three aspects of a given note – attack/decay, sustain/release, waveform.

Taking them one by one:

**Attack/decay.** "Attack" is the length of time that a note takes to reach full volume, "Decay" is the length of time that the note takes to die away. Attack values range between 0 and 15. To obtain the correct decay rate take the attack rate you selected, multiply by 16 and add the result to the decay rate that you have selected, which also ranges between 0 and 15. This will give you a decay rate of between 0 and 255.

**Sustain/release.** "Sustain" is the level to which the note decays. 0 is zero volume and 15 is full volume. "Release" is the length of time it takes the note to fall from the sustain level. Again, you take your sustain value, multiply by 16 and add it to the selected release rate.

**Waveform.** "Waveform" is integral to the tonal quality of the music you are producing. You have four choices: 1. White noise. 2. Pulse waveform, 3. Saw-



tooth waveform. 4. Triangular waveform.

One could go on and on. Because there are filters which can be used in different forms with different voices, there are special effects which will give you everything from a vibrato to sync modulation, which combines the outputs of two voices to create new overtones in the primary voice.

This cartridge alone makes the Commodore 64 worth its price. Plainly, we need to get a professional musician with experience on electronic synthesizers to give the system a full work out.

## How could the cartridge be improved?

At the price it must be impossible. But the booklet that goes with it is extremely skimpy. We will lean on David "Old China Hand" Harvey to lend a machine to a suitably literate composer so that we can write a full and detailed description of how to wring the last sonorous note from this splendid program.

## Lazarian

Visual & audio appeal	★★
Game interest	★★★
Sustained interest	★★

This is a home version of the Bally/Midway Arcade Game and consequently to test it properly we turned it over to our local Arcade King, who is unwelcome in most of the Arcades in Sydney because he can keep a game going for so long that the proprietor loses serious money. He is a bespectacled youth of loathsome appearance but he can work those machines.

"This game is not as good as an arcade game because the pictures are fuzzy and it is not easy to tell which meteor you have hit because the joystick is too stiff to be accurate and there is no way of aiming properly. I wasn't stoked. And the bit where the daft looking birds come hurtling down towards you in the tunnel didn't leave me rapt, either."

There speaks an expert trained in

the complexities of the language of Milton and Shakespeare at one of our higher centres of learning.

## Better programs to come

But there are far better programs than this in store for us. We have been playing in the office with the next generation of Commodore 64 programs which will be on sale before our next issue hits the street. They are of another dimension altogether. They use graphics, sprites, three dimensional images, noise and even voices to add to the excitement and to the sheer playability (a word we think we have just invented) of the game.

## Superior software

There is no doubt in our mind that Commodore really have to pull their socks up and start producing some superior software which matches the capabilities of their machines if they are to stay in the race. It is dreadful to relate but we have seen many games available on Atari which have far outclassed those currently available on Commodore.

And there is no reason for this. The facilities that are built into the

machine are a dream for games designers.

## Magic desk

A good example is the "Magic Desk". If and when all the capabilities of this program are fully implemented - don't hold your breath - we will have one of the finest integrated simple office programs in the world. With it you will be able to use a word processor, file, check the time, look up your telephone index, call out and very possibly balance your cheque book. The program is nowhere near reaching its capabilities as yet although it has been released with some of those capabilities augmented. It is this sort of program that combines fun with usefulness that will bring Commodore software up to world standards. Not pathetic clowns leaping off teeter boards.

We know that in the next issue we will be reviewing some games which are light years better than those which we have reviewed and slated in this issue.

We look forward to seeing a flood, a deluge of them so that the Commodore 64 retains its place as the foremost microcomputer of the land.





As some of our more eagle eyed readers will know the publisher, of this magazine also writes regularly for the "Weekend Australian" on microcomputers. Some weeks ago he wrote an article on the advantages of the Dvorak keyboard over the QWERTY keyboard. To his chagrin, he now finds that the "Weekend Australian" is not, as he thought, compulsory reading for every Commodore owner, and for those who missed it here, as they say, are the main points of the news.

Those who have read it please duck under the main article and have a look at the letters at the end.

### Qwerty/Dvorak

In 1873 Christopher L. Sholes invented the typewriter. His invention looked like a sewing machine with typebars striking upwards to the roller. This meant that the typist couldn't see what was being typed which led to all sorts of problems.

But the biggest problem was that the bars operating the keys lay close together and if a typist hit keys operating adjacent bars too quickly, the two bars stuck together through friction. Those of us who started with steam typewriters will remember that this fault remained with manual typewriters to the bitter end.

To get over this problem Sholes, an exceedingly ingenious inventor, studied the frequency with which letters were used in the English language, and then designed a keyboard which slowed down the fastest operators so that they couldn't jam the keys.

This keyboard, which most typists will recognise as QWERTY, became the industry standard — and is still the standard used on modern computers, which is a situation approaching lunacy. Computers do not have key bars that jam together through friction.

Very shortly after Sholes' machine hit the market, several inventors came up with better keyboards which improved the speed of the typist. But Sholes' splendidly designed piece of inefficiency won the day. He was, after all, there first.

In a book called "The Wonderful Writing Machine", Bruce Bliven writes: "From the standpoint of the touch typist, this arrangement of the alphabet is madly inconvenient. According to the many engineers, psychologists and student PhDs who have studied it, the

standard keyboard is considerably less efficient than if the arrangement had been left to simple chance."

Quite so. That is the way Mr Sholes meant it to be.

Just before WWII, Dr August Dvorak, then professor of English at Washington State University in the US, decided to do something about it and got a navy contract to improve the typewriter keyboard. Why the navy I know not, but an improved keyboard was ready for testing in the early '40s.

The Dvorak keyboard was found to be 20 times easier to use than the Sholes. Typically a learner can be an extremely efficient touch typist in a quarter to half the time it takes to become proficient on an average keyboard. And most users of Dvorak keyboards average 100 words a minute with ease. Typists on normal keyboards are considered good at half that speed.

And did the world jump on the bandwagon and convert all typewriters to Dvorak keyboards, thus saving untold millions of dollars and work hours? They did not.

There are two reasons for this. Secretaries who learned to touch type on the QWERTY keyboard were jealous of their skills. They saw no reason to relearn a new method, even if it was demonstrably twice as good.

So although the Dvorak keyboard was commercially available in 1944 — more than 10 years ahead of the first serious computer — typewriters remained unchanged. And this keyboard became the standard inputting system —

because in the main programs are typed into machines and typists with QWERTY experience were the ones that got the jobs.

That doesn't mean to say that the Dvorak system completely disappeared. All the world typing records were made using Dvorak keyboards, IBM and Smith-Corona offered typewriters in the US (but not, as far as I can ascertain, in Australia) with Dvorak keyboards.

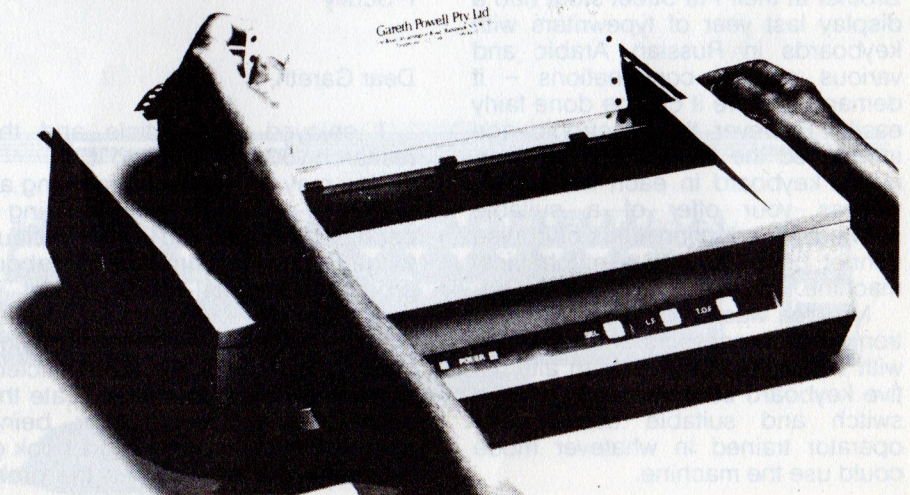
The situation at the moment is that no computer manufacturer that I have been able to find is offering an improved keyboard.

All the children in Australian schools who are being taught the basic skills of computing, are being taught on a keyboard which was designed specifically to slow them down. Not a happy thought.

How difficult is it for a keyboard to be given a Dvorak conversion?

Typewriters I know little about, but with most microcomputers it is possible to write a software program that changes the keyboard from the inefficient Sholes to the efficient Dvorak. The vast majority of microcomputers have keys which are a press fit and it is easy to lever them off and change them around to a Dvorak pattern.

What, of course, is really needed is for the computer manufacturers to throw off the shackles of the 19th century, realise that they are using a keyboard which was designed to be inefficient in 1873 and issue their machines with Dvorak keyboards. The vast majority of first-time computer buyers are not touch



typists, so nothing is lost.

Indeed, it is worth noting that touch typists who are fluent on the QWERTY board have no difficulty in switching backwards and forwards between the two systems. It is rather like driving a car with a stick shift gear box and then switching to one with an automatic gear box. The mind readjusts very quickly to the movements that are needed.

Nigel Shephard, the managing director of Commodore Australia says he would love to see the Dvorak keyboard freely available, alongside the Sholes keyboard, but that it will need a simultaneous plunge by several manufacturers for this to happen.

For those who are interested in trying out the Dvorak keyboard, the conversion program suitable for the Commodore is reproduced herewith.

This subject is plainly of interest because there were 868 letters written to the "Weekend Australian" immediately after the article was published. Some points raised in those letters were interesting.

Dear Mr Powell,

Some time ago as an accountant (now retired) I did some research into improving keyboards to coincide with the new electronic machines. To me it seemed ludicrous to have such a layout as the DVORAK and not take advantage of it.

I discovered it is not the inability to produce such a keyboard that prevented its introduction; typewriter manufacturers can readily produce any keyboard your heart desires. Brother at their Pitt Street store had a display last year of typewriters with keyboards in Russian, Arabic and various special combinations - if demand is there it can be done fairly easily. However the electronic age introduced the versatility of an alternative keyboard in each machine - witness your offer of a suitable software for adaption - this of course cannot be done with a mechanical machine.

My idea was to introduce all electronic wordprocessors and such like with the built in facility of an alternative keyboard so that by means of a switch and suitable overlay any operator trained in whatever mode could use the machine.



Your comment about changing from one style to another is interesting because my research indicated that reluctance on the part of operators trained on the QWERTY system to try another layout was the basic reason for non-introduction of the more efficient system.

In my opinion the only way to effect a change is by official encouragement at say Government level; others would then follow. With alternative keyboards old diehards could still use the old system until they retired.

You may be aware that in the USA the Oregon State government stipulates in its tender requirements for keyboard contracts that DVORAK layouts be supplied. ("Electronic Office", Australian Financial Review, 27/7/81).

It is articles such as yours that may eventually sway public opinion and ultimately business houses that the system can be improved.

P Scully

Dear Gareth,

I enjoyed your article and the research you have put into it.

You may be interested in doing an article on software. Owing to being a country dweller, I find it very difficult to gain adequate information about program material and what is available.

One often finds oneself buying blindly because there is insufficient detail on the software to indicate the quality and content. After being caught, I thought by buying a book of programs this might solve the prob-

lem. Some programs worked, others wouldn't, even though we painstakingly checked each line. Agents often only have lists of meaningless titles.

In my opinion if material was priced at a far cheaper level I for one would purchase probably three or more instead of hesitating even to buy one. This would also encourage people to buy their own instead of copying, which brings about loss of sales.

Les Fernance

Dear Mr Powell,

Have you read Seymour Papert's comments on QWERTY? Enclosed is a snippet quoted from a scientific discussion written by a colleague and myself:

If, in view of these facts and the history of the origin of Mancy's definition, most workers in the oxygen sensor field should be satisfied with a "Mancy" definition of permeability, there is the danger of receiving the condemnation of the following words of Seymour Papert (Mindstorms: children, computers and powerful ideas, Harvester 1981, p 51) in another context:

"But, like QWERTY, it has dug itself in so well that people take it for granted and invent rationalisations for it long after the demise of the historical conditions that made sense of it."

(Of course, QWERTY is only unnecessary, and a damn nuisance, not misleading.)

David Short



## VIEW FROM THE HOLD



**N**ews that the founder of Commodore, Mr. Jack Tramiel, had left for fresh woods and pastures new came as a shock to us Rats down here. Why he left is not immediately clear but it probably had something to do with a replacement line for the Commodore 64. This machine is selling like the proverbial hot cakes. It is impossible to get accurate sales information but there is no doubt that in Australia it is miles ahead of the competition. It was obvious that the 64 was the machine when an American newsletter called "DTack Grounded" announced last year that the Commodore 64 was back ordered (dealers were waiting for the factory to catch up so that they could get their supplies) in September, ready for the Christmas rush.

In the report it said: "Commodore's big problem is that it cannot build enough product to satisfy demand. And unlike the IBM PC, there aren't a bunch of clones out there to pick up the shortfall; IBM and Commodore are the only two companies making it big in the small computer marketplace ... Commodore continues to rack up an unbroken string of record sales and profits and a growth rate that more than doubles the company size every year. And you know what? Commodore gets no respect!" Well, it does from this lowly Rat.

We know that Commodore Australia had to air freight in three separate loads of 64's and Vic 20's to meet the Christmas demand. The argument goes that if you have a winner why risk serious money in the iffy world of microcomputers to replace it with an unknown quantity. The opposite argument goes that unless you move onwards you stagnate and eventually move backwards.

We aren't taking sides in this argument but it is very difficult to beat success. So Tramiel has gone, a man who came out of the US Navy, moved into typewriters, on into calculators and finally into personal computers. Under his direction the company produced some amazingly successful machines. We understand his management style might have been called, with justice, somewhat abrasive. He once said about the microcomputer market that it was "a war". And he may have had a point. And it was once reported of him that "he had major fights with dealers and just about everybody employed at Commodore".



This Rat will miss him. In a world of dull conformity Tramiel was an individual. And with a Canadian financier he built a giant of a company which will probably top \$1,000 million in sales in this financial year. His replacement is Marshall F. Smith who comes out of the packaging goods industry. He has a hard act to follow.

### Bad press

Every company must, at some time or another, produce a "lemon". And Commodore is no exception. In this case it is the Commodore 1525 printer. Understand that this Rat is a Commodore fanatic. Not that I think Commodore can do no wrong — regard then the total bog-up in launching the "Magic Office" with at least 80% of its potential unused — but normally they produce goods that function as directed at a price which leaves the competition gasping some way behind. The exception is the 1525. I would accept that it is my handling that has stuffed up the machine (Rats are not naturally manually adroit) except for the fact that I know there are more complaints about this ideal anchor for a light dinghy than for any other piece of Commodore equipment. My guess for what it's worth (and a Rat's guess is not worth much) is that the printer is made by Epson in Japan. Certainly it is made in Japan. And that it really wants ASCII to come down the line before it feels comfortable and cosy. Real ASCII is not readily available from Commodore so that the machine sulks, spits out spurious characters and generally

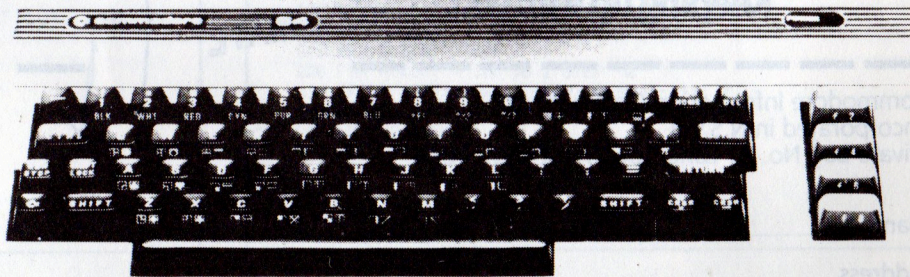
makes a nuisance of itself. Are Commodore thinking of a recall on these machines? Are they going to suggest they be used as expensive but decorative doorstops? This Rat just wonders.

### Unlisted numbers

Who is the mysterious Ian Nicholas, we ask ourselves. Past the Rat's desk flow a series of press handouts of varying degrees of accuracy. (No, Ian, the Commodore is not yet available in Australia with MS DOS and if you want this Rat's guess it won't be for the rest of this year). At the bottom it tells us that we can contact Ian for further information on two different telephone numbers. Interestingly, neither of these numbers are Commodore. Even more interesting is the line at the bottom of every handout: "Editors please note, these numbers are not for publication." It's alright Ian, your secret is safe with us. But why the secrecy? Is it possible that there are hordes of sex starved women pursuing young Ian from pillar to post? Surely not.

We always get our publicity from David "Old China Hand" Harvey who seems to have a reasonably astute idea of what is happening in the wide world of microcomputers, even if he emulates a clam when it comes to Commodore matters.

Who then is Ian Nicholas? And why are his telephone numbers ex-directory? Perhaps one day this Rat will get a press release revealing the answers to these pressing matters. □



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## BOOK REVIEWS

**T**im Hartnell is an Australian computer publisher and program writer. He is the series editor for Penguin Australia of a collection of books which provide games for various microcomputers. The "Commodore 64" title contains 17 games, none of which are startling or even immensely original in their concept. But they do have program notes provided by the authors Robert Young and Paul Copeland and, as a result, as a learning tool they are immensely useful.

Anyone who works their way through the whole of this book keying in the programs would, at the end of the exercise, have a very thorough understanding of the programming capabilities of the Commodore 64. The last part of the book is a series of appendices which show various sub-routines and how they can assist in program writing. To give you a feel for the book here is one of the games, "Runaround", with its explanatory notes in full. The game is only 38 lines long but it does show the quality of the programming.

Penguin publish the book at \$12.95 which is, if you think of it as a paperback, extortionate, but if you think of it as a collection of programs is remarkably cheap.



From the same publisher and editor but just one of the previous authors, Paul Copeland, comes a book on Vic 20 games. It is of the same high standard and the cover price is identical. Typical of the really useful sub-routines included is "Fast Cursor Positioning by Print Statement".

Both these books are excellent and are a major step forward in computer book publishing. No doubt we will be seeing a lot more titles like these in the near future.

## RUNAROUND

This short program is designed to give you a little mental exercise. The computer will display the numbers from zero to nine in a random order on the screen. Your task is to unscramble the numbers and put them into the correct order, 0 1 2 3 4 5 6 7 8 9, in as few moves as possible. This is done by either reversing the whole sequence or just a part of it. For example the computer has generated 7354098621. It will then ask you "WHICH NUMBER DO YOU WISH TO TRY?". Entering 1 would then reverse the entire sequence to read 1268904537. Entering 5 would then reverse the numbers from the fifth number onwards, that is 1268735409. The game finishes when you have the numbers in sequence from 0 to 9.

The program performs this clever little juggling trick by placing the randomly chosen numbers (line 50) into a string (A\$) this is done in lines 60 to 100. Line 70 checks to see that a number isn't picked twice.

The function CHR\$ converts the number to its ASCII code so that it can be stored and printed out by the string AS. The program then uses MID\$ and LEFT\$ to manipulate the contents of the string after each input.

Line 130 prints the sequence of numbers onto the screen.

```
10 REM RUN AROUND
15 POKE 53280,11:POKE 53281,14
20 PRINT "Q":REM CLEAR SCREEN
25 PRINT TAB(14) "XXXXXXXXXX STAND BY":REM GRAY 1
   CURSOR DOWN
30 M=1:X=0:A$=""
40 FOR T=0 TO 9
50 L=INT(10*RND(1))+48
60 Q=1
70 IF MID$(A$,0,1)=CHR$(L) THEN 50
80 IF Q=1 THEN Q=Q+1:GOTO 70
90 A$=A$+CHR$(L)
100 NEXT T
120 PRINT "Q":PRINT TAB(8) "XXXXXXXXXX THIS IS MOVE
   NUMBER":REM BLUE
125 GOSUB 500
130 PRINT TAB(14) "XXXX" A$:REM BLACK
140 PRINT TAB(4) "XXXX WHICH NUMBER DO YOU WISH TO
   TRY":REM RED
145 INPUT R:IF R>9 OR R<1 THEN 145
150 B$=""
160 FOR T=10 TO R STEP -1
170 B$=B$+MID$(A$,T,1)
180 NEXT T
190 A$=LEFT$(A$,R-1)+B$
200 IF A$="0123456789" THEN 220
210 M=M+1:GOTO 120
220 FOR DD=1 TO 1000:NEXT
225 PRINT "Q"
230 PRINT TAB(9) "XXXXXXXX YOU DID IT IN":M:"MOVES"
240 POKE 53280,0:FOR DD=1 TO 250:NEXT
250 POKE 53280,6:FOR DD=1 TO 250:NEXT:GOTO 240
500 POKE 54296,15
510 POKE 54277,17:POKE 54278,17
520 POKE 54276,65
530 POKE 54275,1:POKE 54274,255
540 POKE 54273,19:POKE 54272,65
550 FOR DD=1 TO 250:NEXT
560 POKE 54276,0
570 POKE 54277,0:POKE 54278,0
580 RETURN
```

## FAST CURSOR POSITIONING BY PRINT STATEMENT.

If you are getting tired of having to POKE the screen for fast graphics, here is an easy method using alphanumeric strings.

One of the advantages of the VIC 20 string handling capabilities is that a string can contain cursor moving commands such as (DOWN) and (HOME). These commands can very easily be placed in a character string and PRINTED so as to rapidly move the cursor around the screen.

### How it works:

The screen represents 506 locations comprising 23 rows each 21 columns wide. To place a cursor anywhere on the screen all we need to do is have two alphanumeric variable string. The first one we will call ROW\$. It will contain (DOWN) cursor commands for placing the cursor at any row. The second alphanumeric string we will call COLUMN\$ and it will contain (RIGHT) cursor commands for placing the cursor (HOME) control followed by 22 (DOWN) controls. By printing the leftmost n characters of these strings, we can now place the cursor anywhere on the screen.

For example to place the character "\*" at row 5 and column 10 the command would be:-

```
PRINT LEFT$(ROW$,5):PRINT LEFT$(COLUMN$,10):"*";
```

### Warning.

If you print a character in the lowest right hand corner the screen will scroll upwards, so it is wise to leave that location vacant.

The little demonstration program TWINKLING STARS shows how by using these commands, fairly fast graphics are quite easy to achieve.

```
10 REM FAST CURSOR POSITIONING WITH ALPHANUMERIC STRINGS
20 REM
30 REM COPYRIGHT 1983
40 REM PAUL COPELAND
50 REM
60 PRINT "Q":REM (CLR)
70 ROW$="XXXXXXXXXXXXXXXXXXXXXXXX":REM (HOME) FOLLOWED BY
   22 (DOWN)
80 COLUMN$="XXXXXXXXXXXXXXXXXXXX":REM 21 (RIGHT)
90 REM DEMO PROGRAM
100 DIM SCREEN$(100)
110 REM TWINKLING STARS
120 FOR PICTURE = 1 TO 5
130 FOR DRAW = 1 TO 100 STEP 2
140 ROW = INT(RND(1)*22+1)
150 COLUMN = INT(RND(1)*21+1)
160 SCREEN$(DRAW)=ROW
170 SCREEN$(DRAW+1)=COLUMN
180 PRINT LEFT$(ROW$,ROW):
190 PRINT LEFT$(COLUMN$,COLUMN):"*":
200 NEXT DRAW
210 REM RUBOUT STARS
220 FOR RUBOUT = 100 TO 2 STEP -2
230 PRINT LEFT$(ROW$,SCREEN$(RUBOUT-1)):
240 PRINT LEFT$(COLUMN$,SCREEN$(RUBOUT)): " "
250 NEXT RUBOUT
260 NEXT PICTURE
```

# Program a Winner at the Track

by Gareth Powell

**I wrote this article originally for the "Weekend Australian". To those select few who already read that august paper, my apologies. However, there is a consolation prize. The "Weekend Australian" charged \$2 for the program listing that appears at the end. You get it free.**

Dick Francis writes thrillers about horse racing. And damn good they are too.

Francis is writing about something at which he is an expert, for he was a champion steeplechaser for many years. When his books encompass another field apart from horse racing then his research is always meticulous.

In 1981 he wrote "Twice Shy" (still available in paperback from Pan) in which he wrote about the possibility of programming a microcomputer to beat the bookies.

In the book the microcomputer is called a "Grantley", a fictional name. Judging by the segments of programs included it is based on an amalgam of the TRS 80 and the Apple.

"There was provision for scoring for any number of horses in each of more than 800 named races, and in an unknown quantity of unnamed races. Each race had its own set of weightings and very often its own set of questions."

In "Twice Shy" the program works only too well. Sundry nasty gentlemen with firearms come after our hero, only to meet with their come-uppance which is only right and proper in a book of this sort.

But that is fiction.

Is it possible to forecast the winners of horse races on a microcomputer in real life? The answer is a firm and unequivocal "maybe".

In the '60s a betting syndicate called "The Legal Eagles", led by Don Scott and including among its members Clive Evatt Jr, undoubtedly gave Australia's bookies a run for their money.

They used a system which was based on empirical experience, intelligent observation and mathematical probability.

At one stage the syndicate was employing a staff of 12 to keep form cards, film races and place bets.

In 1975 Don Scott stopped being a professional punter and wrote a book called "Winning, An Objective Guide to Successful Punting". The introduction was provided by Bill Waterhouse and "Winning" is possibly still the best book on horse race betting written in Australia.

If the basic hypotheses advanced in this book are true then, in theory, a microcomputer could take the place of that staff of 12 and maintain records which would be a winning computer system.

I became interested in this possibility of a microcomputer based betting system when Graeme Philipson, a computer industry commentator with "The Yankee Group" - an organisation that tells you more about computers than you want to know - lent me a remarkable document.

It was a thesis on the profitability of horse race gambling by Scott Williams, BEc, Dip Rur Acc, who had written it as a "dissertation submitted in partial fulfilment of the requirements for the degree of Master of Economics of the University of New England".

The thesis starts off by disarmingly stating that among its several aims it should let the author "lead a life of ease on the winnings from the implementation of the various systems".

When the thesis was written, the year was 1975, ancient history in microcomputer terms, and the programs were designed for implementation on the University of New England's ICL 1904A computer on strictly rationed time.

This was not the ideal set up but, even so, Scott Williams attempted to answer the question: "Can analytical

techniques, typical of those we would expect to use in business management, be used to formulate strategies that can be used for betting on Australian horse races so as to achieve profits comparable with other forms of investment?"

And the quite startling conclusion that he came to at the end of his thesis was that "race gambling, in even a reasonably unsophisticated manner, is potentially quite considerably more profitable than other forms of common investment".

Being "reasonably unsophisticated" I was entranced at having found a means by which I could cease working for a living and become a rambling, gambling man through the virtues of a system run on a microcomputer.

An Irish mathematical genius had once explained to me that the chances of winning the Irish Sweep were almost precisely the same whether you bought a ticket or not. But this was different. This was using modern technology to break the bank.

The phrase "being reasonably unsophisticated" takes on a new meaning when I tell you that up until that time I had never bet on a horse in my life.

I therefore went into a short-lived betting partnership with Graeme "Phar Lap" Philipson in which we attempted to bring the bookmaking establishment of Australia to its knees through an initial gambling investment of \$100. We did not succeed.

The program that we used was sold in the United States under the misleading title of "Win at the Races". It used a mathematical statistical formula called Multiple Regression Analysis Factor for each major racetrack in Australia.

We also modified the program to suit Australian conditions. We were cleaned out on the first day's racing.

There was a good and proper reason for this.

We insisted on placing a bet on

every race. There's no racing system in existence which will let you place a bet on every race – and win.

But to get a list out of the program meant that Phar Lap and I worked like maniacs from the early dawn of Saturday morning until race time, punching in the information that was required.

Having gone to all that effort we thought the least we could do was to place a small bet to see what happened. And thus our \$100 went down the plug hole.

I tried the system once again in Hong Kong – and it didn't work there either. Again for the same reason. Having expended that much effort in entering in the information, I wanted a bet in order to at least have a chance of seeing a return on effort invested.

I bet \$HK1000 and won \$HK620. A net loss of \$HK380. As a system this leaves something to be desired.

If before that time I had read Don Scott I would have realised that the situation was not a hopeful one. He says: "Final times and sectional times are constantly being fed into dozens of computers around the nation. The computers are given every horse from first to last that are raced at a meeting and are solemnly asked to declare what time each horse ran and what time each horse should have run.

"The following Saturday they have to answer for all of the horses how fast they are going to gallop carrying separate weights over each separate distance that day. And computers have to answer these questions rain, hail or shine. No wonder they often break down under the strain."

Since that time I have learnt a lot about computer forecasting of races.

Although I have totally given up betting – once bitten, twice miserly – I have tried to read every skerrick of information about the subject so that I can now tell you, with authority, that Babbage tried to invent the first computer so that his innamorata, Ada Lovelace, could win at the races.

I have also talked to several professional punters who use computers to direct them in their betting. (It is of interest that most of them seem to have names coined by Damon Runyon.)

From this I have come to some conclusions:

A microcomputer can help you to achieve better results in betting on horse races.

If you insist on betting on every race you will lose.

Certain types of race are difficult, if not impossible, for the computer to analyse. You should not bet on these. Examples are races beyond 2000m, races held in wet conditions, races which are not held at major metropolitan tracks, races which have more than 12 runners, races which have less than four runners and races in which one or more of the runners have a previous form.

The amount of time and effort that is required to enter all of the necessary information means that, unless you start with a substantial bankroll, you are working for about 27c an hour.

Having said that, I repeat that I believe it is possible to be more successful at the races using a microcomputer than otherwise.

The program we have produced uses some reasonably sophisticated computing techniques incorporating Multiple Regression Analysis. The program will at least let you lose scientifically, if not make a fortune in the first week.

The program has been put together by a troika of talents. The three people concerned are Ethan Dorfmann of Hitachi, who used his considerable programming skills – once the concept had been explained to him.

Second member of the team was Graeme "Phar Lap" Philipson who is a computer industry analyst for "The Yankee Group" and is also, as his nickname suggests, a man who has spent considerable time and effort following the horses.

And lastly I plead guilty to having worked out the concept of the program and having spent a large amount of time, but no money, in putting the various components together and checking the results.

When we completed the first draft

of the program, we found that, as it stood, it had two flaws.

The first was that we had gone too far in showing off our programming skills. Nothing exceeds like excess.

After the program had shown the winners in list form it produced a graphic representation on the screen of the horses at the winning post with the first three horses named and in their correct relative position with all the jockeys in their right colours.

Which is pretty spectacular.

But doesn't help you to win at the races. It also involves typing in the colours that each jockey is going to wear in each race and this is an added burden which may put you off using the program to its fullest advantage.

The second problem was that we had made no allowance for the interested punter to use experience and judgement. The result was a cold sterile program that acted as if it knew it all. Computers don't know it all. They just think they do.

We decided that there were two factors that could be optionally entered by the punter on the basis of experience and judgement.

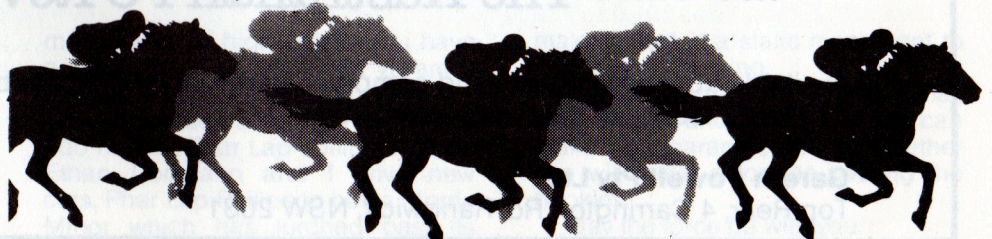
The first factor is a jockey allowance; the second a weight allowance. We'll come to these in a moment. Note that these value judgements are not absolutely necessary. We just felt that you might like to have some control over your own destiny.

Once you start the program the title page appears you are invited to enter the type of race involved:

1. Three year olds
2. Welter
3. Open
4. Weight for age

Having entered the type of race you are working on you are confronted with another screen asking for race information.

1. Date of race
2. Name of track
3. Race number
4. Distance
5. Number of horses



The next screen confirms the information you have entered with a listing across the top showing which race it is, where and at what date. You then have to enter the following information.

1. Horse number
2. Horse name
3. Weight carried
4. Position at barrier
5. Weight allowance

(If you press RETURN at this point the value given will automatically zero. However, if you fancy yourself in making value judgements regarding horses in a particular race, go for your life. What you are then doing is effectively handicapping the horses. This requires judgement and expertise and we have a sneaky feeling that the end result is going to favour the punter who ignores this and just presses return. Time will tell.)

6. Jockey allowance

(Again, you can ignore this because it is another value judgement. An apprentice first time up might justifiably be given a rating of -1.

One of the seasons top twenty jockeys, on the other hand, might be given an allowance of +1. Figures in excess of this either way will skew the results to such an extent that they become meaningless.

Once you have entered these vital statistics you will see almost immediately on your screen a prediction of the results.

From left to right will be given predicted position, name of horse, barrier drawn and expected odds.

In this the first of a series we have

checked out our own Multiple Regression Factors and entered them in as constants.

Which means that this program is not designed to update itself as you go along by adjusting the MRA factor after the results of each race have been obtained and entered in comparison with the prediction.

We can and will do this at a later date but the amount of work that you, the punter, will have to do then will increase enormously. In order to arrive at a satisfactory weighting you will need to enter the historical record of each horse.

This is a time consuming and expensive business. Either you spend the wee hours before each race day frantically going through the form books and entering the last five significant races with all relevant details (barrier position, weight carried, race track, race length, rating of jockey time at the Leger, completed race time) or you retain all of this information on a 10 Megabyte hard disk so that you eventually build up a file of information on every galloper in Australia.

### Historical record

We are following the second method after this program has been running for eight weeks we may issue new weightings.

You will easily be able to enter these into the program if significant changes have occurred.

We are also working on a program that can download through the telephone current information from one of the news services so that the

keying in of the information will not be necessary. We will keep you informed.

The most important information that this current program will give you is "forecast odds". It is here that the intelligent and patient punter will make money.

If the projected odds are in line with those being quoted then it is possible that the other forecasters are using a similar method to ours. (Laughable though you may find this we found we were uncannily close on three trial runs).

What you will be looking for is an "overlay". That is where the program says that the winner's odds should be, say, 4/1 and the odds predicted as shown in your newspaper are 12/1. This is a profit potential situation.

When the results come up on your screen or printer if you have one look first for the "overlays" and mark them for closer study.

Reject any race where the difference in odds between the first three horses is insignificant. The bigger the spread, the bigger your chances of success.

1. Do not bet on a race where there are four runners or less.
2. Do not bet on a race where there are more than fifteen runners.
3. Do not bet on anything except the major metropolitan meetings.
4. Do not bet on a race where one or more of the horses has no record whatsoever.
5. Do not bet if the track is wet and heavy.
6. Do not bet unless you can expect an "overlay" on the odds.

**Have you seen the other Gareth Powell Computer Magazines?**

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```

5 CLR
10 DIM N%(16), RH%(16), B%(16), PP%(16), BK%(16), DK%(16), P%(16), W%(16)
20 FOR I=1 TO 15: READ B(I): NEXT I
30 PRINT "Q"
40 PRINT "
50 PRINT " WEEKEND AUSTRALIAN RACING PROGRAM "
60 PRINT "
70 PRINT:PRINT:PRINT
80 PRINT TAB(8)"[1] 3 YEAR OLDS":PRINT
90 PRINTTAB(8)"[2] WELTER":PRINT
100 PRINTTAB(8)"[3] OPEN":PRINT
110 PRINTTAB(8)"[4] WEIGHT FOR AGE":PRINT
120 PRINT:PRINT:INPUT " ENTER RACE TYPE : ";X$
130 X=VAL(X$): IF X<1 OR X>4 THEN 30
140 PRINT "Q":PRINTTAB(2)"
150 PRINT TAB(10)"RACE INFORMATION"
160 PRINT "
170 PRINT:PRINT:PRINT
180 INPUT " RACE NUMBER : ";I$;RN=VAL(I$):PRINT
190 INPUT " DATE OF RACE : ";DT$;PRINT
200 INPUT " NAME OF TRACK : ";TR$;PRINT
210 IF X=2 THEN 240
220 INPUT " DISTANCE : ";S$;DI=VAL(S$):PRINT
230 IF DI<1000 OR DI>3200 THEN PRINT "DISTANCE 1000-3200":GOTO 220
240 INPUT " NUMBER OF HORSES : ";P$;N=VAL(P$)
250 IF N>15 THEN PRINTTAB(8)"*** MAXIMUM HORSES = 15 ***":GOTO 240
260 FOR I=1 TO N
270 PRINT "Q":PRINT "
280 PRINT " RACE# " ;RN;" DATE " ;TR$;" D# " ;DT$
290 PRINT "
300 PRINT:PRINT:PRINT
305 D=0
310 PRINT " HORSE NUMBER ***** ";I;PP(I)=I:PRINT
320 INPUT " NAME : ";N%(I):PRINT
330 IF LEN(N%(I))>13 THEN PRINT " *** MAX NAME 13 LETTERS ***":GOTO 320
340 INPUT " WEIGHT : ";W:PRINT
350 IF W<50 OR W>70 THEN PRINT " *** WEIGHT BETWEEN 50 AND 70 ***":GOTO 340
360 INPUT " BARRIER POSITION : ";P:PRINT
370 IF P<1 OR P>15 THEN PRINT " *** ONLY 15 POSITIONS ***":GOTO 360
380 C=0: FOR J=1 TO I-1: IF BK(J)=P THEN C=1
390 NEXT J: IF C=1 THEN PRINT " *** ONE HORSE PER BARRIER POSITION ! ***":GOTO 360
395 BP=(P)-BK(I)=P
400 INPUT " JOCKEY ALLOWANCE : ";JAS;JA=VAL(JAS):PRINT
410 IF JA>5 THEN PRINT " *** JOCKEY ALLOWANCE MAX = 5 ***":GOTO 400
420 INPUT " WEIGHT ALLOWANCE : ";WAS;WA=VAL(WAS):PRINT
430 IF WA<-5 OR WA>5 THEN PRINT " *** WEIGHT ALLOWANCE RANGE -5 TO 5 ***":GOTO 420
435 GOSUB 2440
440 TC=SC
445 INPUT "WEIGHT IN QUALIFYING RUN : ";W:PRINT
450 INPUT "BEATEN LENGTHS IN QUALIFYING RUN : ";BQ:PRINT
455 INPUT "DISTANCE OF QUALIFYING RUN : ";D:PRINT
460 INPUT "CORRECT (Y/N) : ";S$;IF S$="N" THEN 270
465 GOSUB 2440
470 EP=(W-BQ*1.5) - SC
480 RH(I)=TC+EP-BP+JA+WA
490 NEXT I
500 REM **** SORT HANDICAPS ****
510 FOR J=1 TO N-1
515 L=J
520 FOR K = J + 1 TO N
530 IF RH(L) > RH(K) THEN 537
532 L=K
537 NEXT K
540 TEMP = RH(L):T1=PP(L)
550 RH(L) = RH(K):PP(L) = PP(K)
560 RH(K) = TEMP:PP(K) = T1
570 NEXT J
580 REM **** CALCULATE ODDS ****
590 GOSUB 1010
600 PRINT "Q"
610 PRINT "
620 PRINT TAB(8)"FINAL RESULTS FOR RACE " ;RN
630 PRINT "
640 PRINT "
650 PRINT "PREDICTED", "NAME", "BARRIER #", "ODDS"
660 PRINT "POSITION "
670 PRINT "*****", "*****", "*****", "*****"
680 FOR I = 1 TO N
690 PRINT I, N%(PP(I)), BK(PP(I)), W%(I)
700 NEXT I
710 PRINT "
720 PRINT:INPUT "ANOTHER RACE (Y/N) : ";Y$;IF Y$<"N" THEN 5
800 END
1000 DATA 0,0,.25,.25,.5,.5,.5,.5,.75,.75,1,1,1,1
1010 T=0
1020 FOR Z = 1 TO N
1025 M=RH(I) - RH(Z)

```

```

1030 IF M = 0 THEN D = 1 :GOTO1240
1040 IF M < .5 THEN D = .9:GOTO1240
1050 IF M < 1 THEN D = .8:GOTO1240
1060 IF M < 1.5 THEN D = .67:GOTO1240
1070 IF M < 2 THEN D = .57:GOTO1240
1080 IF M < 2.5 THEN D = .5 :GOTO1240
1090 IF M < 3 THEN D = .4 :GOTO1240
1100 IF M < 3.5 THEN D = .33:GOTO1240
1110 IF M < 4 THEN D = .25:GOTO1240
1120 IF M < 4.5 THEN D = .2:GOTO1240
1130 IF M < 5 THEN D = .14:GOTO1240
1140 IF M < 5.5 THEN D = .11:GOTO1240
1150 IF M < 6 THEN D = .08:GOTO1240
1160 IF M < 6.5 THEN D = .06:GOTO1240
1170 IF M < 7 THEN D = .05:GOTO1240
1180 IF M < 7.5 THEN D = .04:GOTO1240
1190 IF M < 8.5 THEN D = .03:GOTO1240
1200 IF M < 9 THEN D = .02:GOTO1240
1210 IF M < 9.5 THEN D = .01:GOTO1240
1220 IF M > 9.5 THEN D = 0
1240 DK(Z)=D
1250 T = T+DK(Z)
1260 NEXT Z
1300 FOR Q=1 TO N
1310 P(Q)=DK(Q)/T*80
1320 P(Q)=INT(P(Q)+.5)
1330 P=P(Q)
1350 IF P < 75 AND P >= 73 THEN W$="4/11"
1360 IF P < 73 AND P >= 71 THEN W$="2/5"
1370 IF P < 71 AND P >= 69 THEN W$="4/9"
1380 IF P < 69 AND P >= 66 THEN W$="1/2"
1390 IF P < 66 AND P >= 65 THEN W$="8/15"
1400 IF P < 65 AND P >= 63 THEN W$="4/7"
1410 IF P < 63 AND P >= 61 THEN W$="8/13"
1420 IF P < 61 AND P >= 59 THEN W$="4/6"
1430 IF P < 59 AND P >= 57 THEN W$="8/11"
1440 IF P < 55 AND P >= 52 THEN W$="5/4"
1450 IF P < 49 AND P >= 46 THEN W$="10/9"
1460 IF P < 46 AND P >= 44 THEN W$="5/4"
1470 IF P < 44 AND P >= 42 THEN W$="11/8"
1480 IF P < 42 AND P >= 40 THEN W$="6/4"
1490 IF P < 40 AND P >= 38 THEN W$="13/8"
1500 IF P < 38 AND P >= 36 THEN W$="7/4"
1510 IF P < 36 AND P >= 35 THEN W$="15/8"
1520 IF P < 35 AND P >= 33 THEN W$="2/1"
1530 IF P < 33 AND P >= 30 THEN W$="9/42"
1540 IF P < 30 AND P >= 28 THEN W$="5/2"
1550 IF P < 28 AND P >= 26 THEN W$="11/4"
1560 IF P < 26 AND P >= 25 THEN W$="3/1"
1570 IF P < 25 AND P >= 23 THEN W$="13/4"
1580 IF P < 23 AND P >= 22 THEN W$="7/2"
1590 IF P < 22 AND P >= 21 THEN W$="15/4"
1600 IF P < 21 AND P >= 20 THEN W$="4/1"
1610 IF P < 20 AND P >= 18 THEN W$="9/2"
1620 IF P < 18 AND P >= 17 THEN W$="5/1"
1630 IF P < 17 AND P >= 15 THEN W$="11/2"
1640 IF P < 15 AND P >= 14 THEN W$="6/1"
1650 IF P < 14 AND P >= 13 THEN W$="13/2,7/1"
1660 IF P < 13 AND P >= 12 THEN W$="15/2"
1670 IF P < 12 AND P >= 11 THEN W$="8/1"
1680 IF P < 11 AND P >= 10 THEN W$="9/1"
1690 IF P < 10 AND P >= 9 THEN W$="10/1"
1700 IF P < 9 AND P >= 8 THEN W$="11/1,12/1"
1710 IF P < 8 AND P >= 7 THEN W$="14/1"
1720 IF P < 7 AND P >= 6 THEN W$="15/1,16/1"
1730 IF P < 6 AND P >= 5 THEN W$="20/1"
1740 IF P < 5 AND P >= 4 THEN W$="25/1"
1750 IF P < 4 AND P >= 3 THEN W$="30/1,33/1"
1760 IF P < 3 AND P >= 2.5 THEN W$="40/1"
1770 IF P < 2.5 AND P >= 2 THEN W$="50/1"
1780 IF P < 2 AND P >= 1.5 THEN W$="60/1,61/1"
1790 IF P < 1.5 AND P >= 1 THEN W$="80/1,100/1"
1800 IF P < 1 THEN W$="OVER 100/1"
1810 W%(Q)=W$
1820 NEXT Q
1830 RETURN
2430 REM REGRESSION COEFFICIENTS
2440 IF X=1 THEN SC=-270.94+W*.8034+D*.87268
2441 IF X=1 THEN SC=SC-W*D*.80085-D*T*.800088-W*T*.05955
2450 IF X=2 THEN SC=-13 + W*.167
2460 IF X=3 THEN SC=-3.2 + W*.155 - D*.009 +T*.000002
2470 IF X=4 THEN SC=252.14 - W*.698 + D*.003 + W*T*.1069
2480 RETURN

```

7. Do not bet if the predicted positions of the first three horses is close. The level of acceptable closeness is a value judgement you can make.

8. Do not bet unless you can well afford the money. The chances of you making a steady return on your

money are not high unless you have a comfortable bankroll and you are a disciplined and motivated punter.

9. Do not bet. Ethan Dorfmann and I do not bet. Phar Lap Philipson does. Ethan Dorfmann and I drive new cars. Phar Lap Philipson has a Morris Minor which has lurched past its

majority and is a static monument to English engineering.

The program as it is written has been tested and works. But we can make no guarantees as to whether you will make a fortune beating the bookies.

May the force be with you.

**Success story**

There is this book by Ian Reinecke called "Microcomputers" published by Penguins which tells you everything you ever wanted to know about microcomputers — possibly. In it it has excellent quotes to delight a Commodore sales manager's heart (working on the presumption that he has one). It refers to the "startlingly successful Vic 20". On names it is not quite so flattering in that it says "Commodore went so far as to call one of its earliest models the cloying Pet. Another was marketed as the boyish Vic." Again it says: "The Vic-20 machine, one of the best-selling microcomputers".

As it happens it is an excellent book which gives a quick background on the world of microcomputers in Australia.

**New slim line disk drives**

Commodore has released a new dual disk drive in Australia. It is the 8250LP, the LP standing for low profile. It contains its own buffer 4K RAM which is a good idea. It uses double sided five and a quarter inch discs which gives something over 2 Megabytes when it is formatted.

It's a lovely looking machine and matches the Porsche designed 700.

**Software Liberation**

Will Mr Langer of Melbourne please take us off his mailing list. We do not wish to give exposure to his company as we do not agree with their business methods.

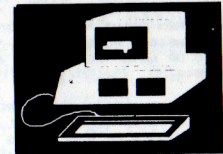
**Audio cassettes**

We were allowed to listen to an audio cassette which takes you by the hand and leads you step by step through using the Commodore 64. It is produced by an English company called Microtrain but, as far as we can ascertain, started life as a Dutch program produced in Amsterdam. It is a splendidly logical way to learn how to use the Commodore 64 properly. No firm decisions have been made as yet but it seems possible that one day we will see it as part of the Commodore 64 package and we also see it offered as an extra for users who already have a 64. No matter how expert you are with a machine you can always learn something new. This cassette will teach it to you.

**Automatic Proofreading**

For everyone connected with micro-computer programming the greatest chore in programming in BASIC is proof reading the program to make sure that every line is perfectly typed. If you have ever done this you do not need to be told

how useful is a "proof reading" routine which will at least help you spot errors within your program can be. In the October 1983 "Compute!" magazine there appeared two small routines which are immensely helpful. We reproduce them here.



**Program 1:  
The Automatic Proofreader For VIC**

```
100 FOR I=828 TO 932:READ A:POKE I,A:NEXT
:PRINT"{CLR}{RVS}SYS 828{OFF} TO ACTI
VATE.{2 DOWN}"
110 POKE178,165:PRINT"SYS 828{HOME}":END
120 DATA169,75,141,36,3,169,3,141
130 DATA37,3,169,0,133,255,96,32
140 DATA14,242,133,252,134,253,132,254
150 DATA8,201,13,240,17,201,32,240
160 DATA5,24,101,255,133,255,165,252
170 DATA166,253,164,254,40,96,169,13
180 DATA32,210,255,165,214,141,165,3
190 DATA206,165,3,169,0,133,216,169
200 DATA19,32,210,255,169,18,32,210
210 DATA255,169,58,32,210,255,166,255
220 DATA169,0,32,205,221,169,0,133
230 DATA255,169,32,32,210,255,32,210
240 DATA255,173,165,3,133,214,76,98,3
```

**Program 2:  
The Automatic Proofreader For The 64**

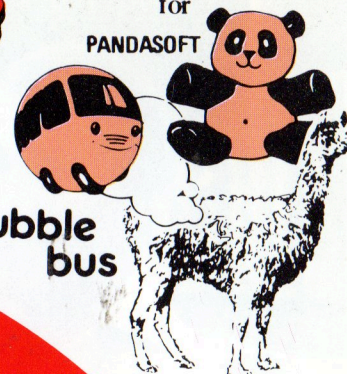
```
100 FOR I=828 TO 932:READ A:POKE I,A:NEXT
:PRINT"{CLR}{RVS}SYS 828{OFF} TO ACTI
VATE.{2 DOWN}"
110 POKE178,165:PRINT"SYS 828{HOME}":END
120 DATA169,75,141,36,3,169,3,141
130 DATA37,3,169,0,133,255,96,32
140 DATA87,241,133,252,134,253,132,254
150 DATA8,201,13,240,17,201,32,240
160 DATA5,24,101,255,133,255,165,252
170 DATA166,253,164,254,40,96,169,13
180 DATA32,210,255,165,214,141,165,3
190 DATA206,165,3,169,0,133,216,169
200 DATA19,32,210,255,169,18,32,210
210 DATA255,169,58,32,210,255,166,255
220 DATA169,0,32,205,189,169,0,133
230 DATA255,169,32,32,210,255,32,210
240 DATA255,173,165,3,133,214,76,98,3
```

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### commodore 64

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Games Coming Soon **MASTER PIECE ★ KICK OFF ★ THE CAMELS REVENGE**

### NEW GAMES SUMMARY

**METAGALACTIC LLAMAS BATTLE AT THE EDGE OF TIME** — A fast and original game for the unexpanded VIC 20. Challenging and colourful, with good sonics and a unique game action and design, this promises to be the most exciting new 3.5K VIC game since the introduction of GRIDRUNNER nearly a year ago.

**HOVER BOVVER** — A totally original arcade game for C64 featuring outstanding graphics and a sound track created by a professional Piano Wizard. Gordon Bennet has borrowed his neighbour's Air-Mo lawnmower. Mow your way through as many of the 16 lawns as you can before the pursuing neighbour retrieves his mower. Set your dog onto the neighbour to help you out of tight spots and don't annoy the Gardener. Try not to plough through the neat flower beds or overheat your mower.

**HUSTLER** — Unquestionably one of the best games available on the COMMODORE 64. Written in machine code and using sprite graphics to the full, HUSTLER takes game playing to new heights with its mixture of six games, for one or two players, and superb computer generated music. From Bubble Bus by Nick Strange.

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