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Vol.2 No.2

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Kevin Holmes is the contact for  
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All programs in this issue of  
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# SCREEN DUMP INDEX

Our continuing quandry is always "What do our readers want / need?"  
To a certain extent we find out from your letters and phone calls - in fact they are our life blood, and that is why you are always welcome to call (although we reserve the right to be irritable and to sleep occasionally!).  
The other guide is our Survey, which was published last month. We need your input to the survey, and we need it by the given date - so if you have not already done so, please fill out the forms in the September magazine and return them to us by 7th October, 1985.

Several callers have asked about the references made last month to the varying text screens available for CoCo.

Most good business type software for CoCo these days in fact has, as an intregal part of the software, a text screen of greater than 40 columns.

We use Telewriter 64 exclusively as our word processor and it comes with 51, 64 and 84 column screens. The V.I.P. series of programs come with their own very nice 51 column screen, and other progs such as Dynacalc also have a 51 column screen.

So if you use commercial programs, you could become quite unfamiliar with CoCo's native 32 column text screen!

In addition, there are programs such as Super Screen Machine and others, available from Software Spectrum in Adelaide, which allow you to program and run programs in 51 or 64 columns.

A nice side benefit is the ability to introduce screen graphics and text into programs which use such screens - for example, you can box menus, or highlight specific points with graphics.

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UPPER CASE = ARTICLE & PROGRAM  
lower case = article only

The current series of educational programs in Australian Rainbow by Bob Horne has an excellent text screen integrated into the program, and other screens have been made available through the magazines over the last few years. So the choice is very definitely there - you do not have to accept the 32 column screen if you don't want to - you can use higher resolutions.

If you purchase an 80 column card and a monitor, you get a very professional output to screen. In fact, this small addition really makes CoCo look excellent!

Many CoCo readers are relatively new to computing. To you we say get into it, keep trying - it takes about 6 months to come to terms with initially, and a lifetime to get over!

If you have trouble with the programs in this magazine, call your nearest Users' Group contact or us. The great thing about owning a CoCo is that help is as close as the telephone!

Would you believe that 'DeskMate', the Tandy 1000 program is about to be released for CoCo? There is also a couple of games being paralleled in both Tandy 1000 and CoCo - bit hard to understand why, CoCo does the job!

Also new from Tandy is a most interesting small TV - virtually hand held - more next month; and a new colour TV which matches perfectly with CoCo.

The further details on that hardware change to the new CoCos will have to wait till next month - sorry!

The EARS programs arrived this month and were received with glee here! We've had a ball talking to our CoCo.

"Talking?" you say!

Yes EARS is a speech recognition unit, which allows one to talk through a microphone (supplied) to CoCo.

It is most effective when used in conjunction with the "Super Voice" speech pack as this allows the computer to reply to you!

There are some exciting developments around the corner for people who own CoCos - the software coming out this next few months should keep even the most jaded taste interested!

We still need more programs and articles. We especially like to receive programs from new and "just learning" (aren't we all!) programmers.

The program should be your own work, not a copy of something someone else has done - if you need further help with that definition, call me - and we appreciate it if in addition to placing several copies of the program on tape, you can give us a text file from Scriptsit, Telewriter 64 or V.I.P. Writer (preferably ASC II), detailing your reasons for writing the program, what it does, and the routines you created which especially please you.

We are about to reinstate Greg's old system of acknowledgements for programs received. Would have done it earlier, but lacked the staff ... poor Janet!

continued on page 27

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# LETTERS

Letters to the Editor, should be addressed to:  
Australian CoCo Magazine  
P.O. Box 1742,  
Southport. Qld. 4215.

Questions of a technical nature can be addressed to Dr CoCo at the same address.

Dear Graham,

The Emerald meet is no more. It has been steadily dwindling all this year. No new members at all but five have left the district.

I'll put out a few feelers in my new area to see if there is any interest in starting a group in Narre Warren. I already know the Tandy guy over there, he's told me that he'll ask around for me, so there may be hope. While I think of it, the newsagent over there used to sell the Rainbow, so it might be worthwhile putting me on the contact list. If you think it is worth a try, the phone number is (03) 764 6680.

Seeing a lot of readers complaining of mistakes prompts me to mention the following article. UFO in the August CoCo. The write up to the program mentions changes that can be made, but the line numbers mentioned don't correspond to the line numbers in the program. Did it get a RETURN before going to print? I'm not complaining, but just letting you know what to expect.

Anyway, I appreciate the magazine(s), faults and all, and congratulate you and your team for your efforts put into keeping our CoCo interests up. Anyone who can run a business, edit a magazine, model trains and compute, gets my admiration.

Leigh Eames  
NARRE WARREN, VIC.

Leigh,

Yes, we must apologise to Gavin for renumbering his program and not changing his text. One day we'll get it right!

I'm sorry of course to see Emerald group disband, but I have no doubt that you'll generate a group in your new area very quickly!

We had been worried about what appeared to be a lagging of interest in Victoria, but the last few months has seen a distinct reversal of that trend!  
Graham.

Dear Graham,

Thank you for an excellent publication. The program "Escher Graphics" (May, 1985 p. 13) by the Delbourgos seems to have a bug in it. I keep getting an Illegal Function call in line 240. If there is no error in the listing please advise.

If there is one please let me know and put me out of my misery!

Thank you again for the fine programs in your magazine especially the recent adventure games. Keep more coming please.

L. Ireland  
WHITESIDE, N.S.W.

L,

We had Escher Graphics running here so I think this is probably an appropriate time to meet your local Users' Group!

Thanks for the nice words, but it is the suppliers who need thanking, because we couldn't last a month without that constant supply of programs from our many talented authors.

Graham.

Dear Graham,

I received from you the May 1984 publication of Mico containing the Little E program. I used the listing on pages 23-24, and on running the program as suggested on page 13, the scan scrolls and then lists an OD error in line 50. Using example 1 on the same page, a syntax error shows.

After sorting through subsequent copies of Rainbow and CoCo, changes to the program as suggested in August, 1984 CoCo, page 18, were made with the same result.

After discussing the problem with the Carindale Tandy people, who are usually very helpful, I keyed in a further Little E program from December issue of Rainbow, same OD error.

My MC-10 uses 1982 Microsoft Basic, could the problem be there, as I have not seen any requests for help published, only favourable comments.

I look forward to receiving your comments. May I say I have enjoyed Dean Hodgson's review of other brands of Computers and hope more are in the pipeline.

Harry Porter  
WYNNUM, QLD.

Harry,

Our friend Jim Rogers experienced a similar problem, but to the best of our knowledge found the problem to be in the typing!

As a result of Jim's problems, Mike Turk volunteered a guaranteed working version, and I understand this will be here in time for November's MiCo2z tape.  
Graham.

Dear Graham,

I am having trouble with the CoCo2z tapes of late, I am getting a lot of I/O errors when CLOADing, also I am finding that the spaces between programs are far too short so that when fast forwarding or rewinding I find that I keep overshooting so when I CLOAD I get I/O errors because I am in the middle of a program.

I was wondering if there is a command or a poke you can use to skip through to the next space instead of FF or CLOADing ten times or so. I know I could just CLOAD "name" and just wait but my time with my CoCo is very limited at this stage, also I am having a lot of trouble with the programs when I do get them loaded - they seem to have a few bugs in them when they are running which means that with all these errors I get a bit frustrated and end up with no time at all. I was wondering if others are having the same problems.

Where do you guys get all those POKE'S from is it just trial and error or is there some logical way, if so could you let me know now it is done.

Keep up with the good work. I do look forward to the mag's each month.

David Hatchman

David,

We have had a little mechanical trouble this month with our tape maker which may account for some of your problems. That problem is now fixed.

No one should put up with one of our tapes which is no good. If your's does not work WHEN YOU RECEIVE IT, send it back, I'll replace it immediately.

The SKIPF command is the one you seek I think. We will put a bit more space between the programs for you.

The POKEs are found by people who, for some primeval reason, like to mess around in the memory of the computer.

These guys and girls should be watched, as medical authorities are very concerned about them. Your local Users' Group contact is probably one. She / he could therefore do with your help!  
Graham.

Dear Graham,

Could you tell me the addresses of Software, Spectrum, Tom Mix and some other software suppliers and/or send me some catalogues from them? Do you know where I could get a software speech synthesizer? All of my friends have Commodore 64 computers and they are always swapping and showing off their games. Could you recommend a good game for me to buy that would

out-class the Commodore or could you send me a program that's good. Do you know where I can get advanced Basic from, the one that gives you 64 colours, 18 graphics pages etc? Did you know that Tandy now has a new range of Colour Computers out that has a different leadage, better picture quality and colours, and an improved character set that has a proper Asterisk, and a zero with a slash. Other characters are also different. My computer just freezes up when I type DLOAD "program", I or 0 why is this so? Could you tell me how to convert assembly to pokes. If you look at an assembly listing there are sometimes values that have no address, also what is the "total errors" for? I used the "ByteCodes" program to put in Repeater but it freezes up while typing in the values. Do you know if Tandy is going to offer the new improvements I mentioned above as an upgrade to the existing CoCo2. I got 91000 for Buzzard Bait, 175000 for Pooyan and 52000 for Donkey King. Does anyone know of some interesting pokes.

Do you have a 008 number because ringing you by STD is too expensive.

Keep up the good work with the mags.  
Chris Brady  
MACKAY, QLD.

Chris,

Please talk to the inimitable Len Maloney, your Local Users' Group contact ... please.  
Graham.

Dear Graham,

I have a MC-10 which I bought at Swan Hill at the beginning of 1984, with a 4K memory, and the CBP-115 Printer. At the moment I am using an old but quite good Sony TC100 tape recorder to store programs.

This normally works very satisfactorily but lately has been giving the input/output Error. I do not know whether this is caused by the old (1968) machine, or fluctuations in local voltage here. I have been thinking of getting the suggested Tandy Recorder for the MC-10.

However I have successfully loaded Little E and TTP from it, so I am not quite sure. At different times of day I seem to get different results, so it could be the electricity supply. If that is the cause I may have a try to rectify this.

John Ford  
JUNEE, N.S.W.

John,

You have a top man in Paul Maloney, to advise you locally with regard to this matter.

I think your tape recorder has run its race. Even if it hasn't, it would be better to use the equipment designed to go with your computer.

Graham.

Dear Graham,

Greg used to ask for more programs for Mico but I could never be sure if my programs would run on Mico, as I don't own one. So in April I tried the Coco to Mico translator.

Is this one of the Loof Lirpa segments? The programs I put in at one end came out looking like rubbish. They really did look like they'd been through a crude food processor as shown in the illustration.

Is it for real? Does it somehow get re-converted when loaded into Mico?

I tried to run "Ephem", but it comes up? SN error - caused by exclamation marks instead of variables. Will changing these make it okay?

Johanna Vagg  
FORBES, N.S.W.

Johanna,

Yes, I'm afraid the April bug hit that program and also the Ephem program.

The offending lines are described in the May edition, along with the way to eradicate them.

Most programs for a Basic (non ECB CoCo) will work with little or no change on the MC 10, if accurately typed in, and vice versa.

Graham.

# REVIEWS

## THE DELBOURGO EXPANDED COLOR BASIC A FEW NOTES

by John Jackmon

Some few weeks ago I was talking to Graham and I mentioned that I had just bought a copy of Tino Delbourgo's Expanded Color Basic for my 64K cassette-driven CoCo. He mentioned that he himself was very pleased with the ECB and asked me for a review.

Well, to write a review of Tino's ECB one needs to spend months exploring all of its possibilities. However I was concerned to get something of its characteristics across to the Rainbow readers so this article is really a collection of quick impressions I have gained since I have acquired it.

The tape uses short basic programs to peek and poke at the right locations to load machine language programs. Little RAM is used and on no occasion I have had less than 22+K available.

The tape begins with the Tandy Extended Color Basic 1.0, which brings CoCo and CoCo 2 owners to the same level. The programs following offer a choice of ECB's because memory limitations make it impossible to have all the features of ECB into the one program. The first program has the graphic/text commands, and this is followed by two short programs which change the screen size from 32x16 to 51x24, and back again. The next program has the edit/helper commands and after it is a program with the Q-Screen commands. Then, there is a program with extra commands, and finally a whole series of demonstrator programs.

ECB has a number of excellent and welcome features and I shall try to describe some of them. There are repeat...until loops, multiline if...then...elses, procedures which are an improvement on subroutines, the DELPROC command which makes a computer forget the last line it executed (haven't figured out yet why this is a great invention), redefining characters, extra graphics pages, reverse video and some good error trapping commands. For those of you interested in sounds and characters you will be thrilled and you will get a chance to chill the spines of your family and neighbours with the variety of weird sounds possible through the ENVELOPE and BEEP commands. The envelope command lets you define a particular note and increment the volume played in each of

PAGE 6

four successive stages. The beep command plays the sound.

Let's take each major ECB program in turn and I shall try to describe those features which I have had time to explore. Firstly, the graphic/text commands. These are excellent and have pushed the CoCo into the realm of the higher priced micros. In particular the text writing capability is first class. Enter TEXTOFF, PCLS and press SHIFT/0 and you have lower case lettering available which are very good for educational and program writing. What is more, the colour and size of the lettering may change by use of PMODE and programs. The quality of lower case lettering is excellent, I have found no trouble in my LPVIII interpreting them at this stage & I see no point in buying the hardware lower case modification. Finally their good scrolling capabilities in both text and graphic screens and the text screen has a border drawing command.

Now we come to the EDIT/HELPER program. Tino has been able to get some of the best features of MS BASIC in his program. There are auto numbering, function key definitions - virtually all the keys have been defined as BASIC words with the simultaneous use of the shift-up and shift-right keys - and there is a way for user definition of keys in case Tino's definitions are not liked. I particularly liked the autokey repeat which I have got used to in other micros. The on-screen copying I have found to be half useful. I have less need to copy program lines in toto and more need to edit half a dozen lines showing on the screen. The adjustable printer width is also a boon to those who want to plan the size of their printouts.

The Q screen commands offer many drawing possibilities and require an enormous amount of time to appreciate all their strengths. Firstly there are new colors - my \$295 generic brand TV which I use for a monitor produced some weird mauve, red and blue hues! One of the best features of Q screen must of course be the scrolling. You may scroll in any of the four directions but a little skill is required to learn the right necessary coordinates to use in the scrolling command. One minor limitation is that the QPRINT command will only print strings and not numbers - however these are easily converted by means of the STR\$ function.

The sample programs and their listings served a useful purpose in demonstrating graphics and particularly, the Q commands. It was unclear to me however how some of the games worked. Perhaps what is needed is more of the learning programs eg the color definition program.

In summary I was delighted with Tino's ECB, some of the extras which I would like to see, if they are possible, are:

1. The lower case lettering facility in the EDIT/HELPER program. Most of my programs will be written with this program in memory.
2. Now that the capability of the CoCo has been lifted, is there any way to squeeze a bit more RAM from the ROMS for us 64K users, or must we go for the 128K conversion.

AUSTRALIAN CoCo

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3. Can the on-screen editing facility be upgraded to that of MS BASIC.

4. Can the wide screen be available for the EDIT/HELPER program.

Just to finish up, a few clues for Tino and any other budding software manufacturer. The main clue concerns presentation. Tino, I was not thrilled to receive a Sony tape with a hand-scrawled contents cover and no tape markings on where each program was recorded. Nor the hard to read photocopy of your manual, even though it was well written. If you use a tape directory printing program you can get your printer to produce a close to professional job. As for your manual, it doesn't take much effort to cut and collate the pages and put on a cover - you have an excellent product, don't spoil it by indifferent presentation.

Another bit of advice, particularly for us tape users is the need for a program to be able to be copied with the minimum of fuss. There were no clues in the manual as to how this might be done, but after many trials and tribulations I was able to find a way to do it.

Price is a mere \$30.00 for the tape or \$33.00 for the disk - the best value in software around today! Write to:

The Delbourgos  
15 Willowdene Ave.,  
Sandy Bay,  
Hobart, Tas. 7005.

## SCREEN PRINT

Review by

Kevin Mischewski

It is hard to know where to turn when looking for a decent screen print utility for your system. I'm still looking for one to suit the CITH range of printers.

But for those of you with a TRS-80 LPVII or similar printer then Mark Kyle can offer you a great little screen print utility.

The program is written in DEFT PASCAL and the resulting machine code is position independant. It initially starts and executes at address 10240 (&H2800) and so does not prevent 16K users from using it.

The resulting dump is very good giving a picture which covers the entire width of the 80 column paper, a shortcoming of many screen dump utilities.

Mark will supply the PASCAL source code for those who wish to compile the program under either FLEX or OS9.

SCREEN PRINT is available from:

Mark Kyle  
15 Toorak Avenue  
Lenah Valley  
Hobart, TASMANIA 7008.

October, 1985

# CHANGES FOR FUEL SHUTTLE

by John Carmichael

I have had a lot of fun converting "Fuel Shuttle" (Australian CoCo, July 1985.) to play without a joystick. Below are the changes necessary.

### CHANGES & ADDITIONS

25 GOSUB1000:A\$="PRACTICE ....etc.

...

195 IF PEEK(343)=247THENC=10ELSE IF PEEK(344)=247THENC=53ELSEIFPEEK(342)=254 THENV=V+.4:M=M-2'left, right & DOWN arrows

197 H=H+((C/20)-1.5)/6:IFPEEK(341)=247THENH=0'Space bar

201 IFPEEK(344)=247ANDPEEK(65282)=255THENM=M-.2:PLAYPW\$:GOTO195

202 IFPEEK(343)=247ANDPEEK(65282)=255THENM=M-.2:PLAYPW\$:GOTO195

205 IFPEEK(65282)=0 THEN215 .etc...

...

210 IFPR=1THEN220ELSEM=M-.5:PSET(M,8,5):GOTO220

240 change V<2 to V<4 for easier game

255 IFPOINT(A,B-4)<0THENV=1 ELSEIFPEEK(65282)=255THENV=-1

325 IFPEEK(65282)<0THENV=-1:..etc

..

410 C\$=INKEY\$:GR=.2:IFC\$=CHR\$(94)THENEX=1:D=80:..etc..

415 IFPEEK(65282)<0 THENM=M+1:..etc

505 Put INT(...) around each of the calculations for vert & horiz velocity, M-1, and PW

1000 A\$="INSTRUCTIONS Y/N":GOSUB490

1010 A\$=INKEY\$:IFA\$=""THEN1010 ELSE IFA\$="N"THENRETURN

1015 CLS:PRINTSTRING\$(64,128):PRINT 28," INSTRUCTIONS";:PRINT296," WHILE ON SHIP"

1020 PRINT"SPACE BAR TO LOAD FUEL":PRINT" up TO END REFUEL":PRINT:PRINT"LEFT & RIGHT ARROWS-HORIZONTAL":PRINT" down EMBRGENCY DOWN":PRINT"SPACE BAR TO GO UP":PRINT2480,"PRESS ANY KEY";

1040 IFINKEY\$=""THEN1040 ELSERETURN

No line of the original has been dropped. "...etc..." means continue with the rest of the line as it appears in the original listing.

I hope that this meets with Craig Stewart's approval. Thanks Craig for a great game.

# Quick On The Draw

As you can see from this month's winners the standard of entries into our QUICK ON THE DRAW COMPETITION is really encouraging.

We've listed these basic programs overleaf for you to enjoy and experiment with, alas we can't do the same for the graphic manipulator pictures as we haven't received any as yet. So to all the GRAPHICOM users and 'MAXnuts out there, how about some input!

We have blank tapes, floppy disks, subscriptions to CoCoOz and an as yet to be defined final, super-doooper, grand finale prize.

We'll be waiting with baited breath for all entries 'cause time is running out.

**O**ne of Penrith, NSW, finest programming sons, Tom Lehane, has entered Quick on the Draw with HORSE. Using only line statements... continued overleaf.

**S**oon to be the title page for CoCoOz, Keith Wray's AUSTRALIA is this month's competition winner. Jingoistic it may be, but we think... continued overleaf.

**O**ne of the most interesting letters and entries comes to us from Victoria. STREET is one of two entries from, as Joy calls herself... continued overleaf.

AUSTRALIA  
AUSTRALIA  
AUSTRALIA  
AUSTRALIA

# HORSE

16K

Tom has come up with a stylised nedly just waiting to be given its rein.

by  
Tom Lehane

THE LISTING:

```

10 REM ** (HORSE) BY TOM LEHANE
20 REM ** FOR QUICK DRAW COMP.
30 REM ** COCO MAGAZINE
40 PMODE3,1:PCLS:COLOR6:SCREEN1,
1
50 FOR X=1 TO 208STEP4
60 READ A,B,C,D
70 LINE(A,B)-(C,D),PSET
80 NEXT X

```

```

90 DATA 59,98,55,74,55,74,82,49
100 DATA 82,49,70,43,70,43,64,44
110 DATA 64,44,60,39,60,39,63,31
120 DATA 63,31,95,29,95,29,100,2
4
130 DATA 100,24,110,45,110,45,97
,74
140 DATA 97,74,110,79,110,79,116
,79
150 DATA 116,79,119,78,119,78,14
3,74
160 DATA 142,74,168,78,168,78,17
7,73
170 DATA 177,73,193,94,193,94,18
4,105
180 DATA 184,105,172,84,172,84,1
70,86
190 DATA 170,86,170,106
200 DATA 170,106,166,117,166,117
,185,129
210 DATA 185,129,194,162,194,162
,175,162
220 DATA 175,162,176,141,176,141
,155,131
230 DATA 155,131,131,145,131,145
,128,161

```

```

240 DATA 128,161,108,161,108,161
,115,143
250 DATA 115,143,137,128,137,128
,133,115
260 DATA 133,115,113,120,113,120
,92,120
270 DATA 92,120,92,140,92,140,10
0,161
280 DATA 100,161,80,161,80,161,8
0,133
290 DATA 80,133,72,116,72,116,43
,114
300 DATA 43,114,48,125,48,125,61
,127
310 DATA 61,127,65,145,65,145,45
,138
320 DATA 45,138,32,115,32,115,32
,104
330 DATA 32,104,59,98,92,37,94,3
5
340 DATA 94,35,92,33,92,33,90,36
350 DATA 90,36,92,37
360 PAINT(92,45)
370 GOTO 370

```

☪☪

# Australia

16K

by Keith Wray

Keith's drawing is just great and look he didn't leave off Tasmania, should make the Delbourgos happy too.

THE LISTING:

```

2 GOTO 10
3 OSAVE"AUST":END
4 '#####
5 '##### AUSTRALIA #####
6 '##### BY #####
7 '##### KEITH WRAY #####
8 '##### WRITTEN 14/9/84 #####
9 '#####
10 DIM G(0,187),D(0,9):Y=28:Z=4
20 PMODE3,1:PCLS:SCREEN1,0
30 P=4:COLOR4,1:GOSUB370:GOSUB46
0
40 GET(0,0)-(244,28),G,G:GOSUB80
50 GOSUB570:PAINT(128,96),3,3:PA
INT(184,176),3,3
60 GOSUB100:GOSUB680
70 GOTO 70
80 FORXX=1T05:PUT(0,Y+2)-(244,28
+Y+2),G,PSET:Y=Y+28:Z=Z+4
October, 1985

```

```

90 NEXTXX:RETURN
100 '##KANGAROO##
110 COLOR2,1:LINE(106,60)-(111,5
9),PSET:LINE-(109,53),PSET
120 FOR X=1 TO 121:READA,B:LINE-
(A,B),PSET:NEXTX
130 LINE(104,78)-(100,80),PSET
140 LINE-(100,87),PSET:LINE-(107
,83),PSET
150 LINE(104,78)-(109,86),PSET
160 LINE-(112,83),PSET:LINE-(120
,81),PSET
170 LINE-(126,74),PSET:LINE-(126
,66),PSET
180 LINE-(124,62),PSET:LINE-(120
,61),PSET
190 LINE-(116,61),PSET:LINE-(110
,65),PSET
200 LINE(90,44)-(96,44),PSET
210 LINE-(100,40),PSET:LINE-(105
,35),PSET
220 LINE-(104,34),PSET:LINE-(96,
40),PSET:LINE-(90,44),PSET
230 PAINT(80,104),2,2:PAINT(88,5
6),2,2
240 PAINT(96,42),2,2:PAINT(44,15
2),2,2:PAINT(102,38),2,2
250 PAINT(100,68),4,2:PAINT(120,
68),4,2:CIRCLE(112,56),2,2
260 COLOR 3,2:LINE(97,50)-(100,5
4),PSET
270 LINE-(102,52),PSET:LINE-(97,
50),PSET

```

AUSTRALIAN CoCo

```

280 LINE(82,74)-(88,76),PSET:LIN
E-(90,78),PSET
290 LINE(80,96)-(84,92),PSET
300 LINE-(92,92),PSET:LINE-(100,
96),PSET
310 LINE-(100,108),PSET:LINE-(96
,116),PSET
320 LINE(65,116)-(69,125),PSET
330 LINE-(68,132),PSET:LINE-(61,
140),PSET
340 LINE(96,44)-(104,40),PSET
350 LINE(80,84)-(88,88),PSET
360 RETURN
370 '##LETTER STRINGS##
380 A$="U20R16D20L4U4L8D4L4U8R12
U8L8D8"
390 U$="D20R16U20L4D16L8U16L4"
400 S$="U4R12U4L12U12R16D4L12D4R
12D12L16U4"
410 T$="U15L8U4R20D4L8D16L4U4"
420 R$="U20R16D12L4F8L4H8L4D8L4U
12R12U4L8D4"
430 L$="U20R4D16R12D4L16U4"
440 I$="U20R4D20L4U4"
450 RETURN
460 '##LETTER DRAW##
470 DRAW"S6;B*0,28"+A$:PAINT(4,1
2),P,P
480 DRAW"BM28,0"+U$:PAINT(30,12)
,P,P
490 DRAW"BM56,28"+S$:PAINT(58,12
),P,P
500 DRAW"BM96,28"+T$:PAINT(98,12
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```

```

),P,P
510 DRAW"BM118,28"+R$:PAINT(120,
4),P,P
520 DRAW"BM152,28"+A$:PAINT(154,
12),P,P
530 DRAW"BM180,28"+L$:PAINT(182,
12),P,P
540 DRAW"BM208,28"+I$:PAINT(210,
12),P,P
550 DRAW"BM218,28"+A$:PAINT(220,
12),P,P
560 RETURN
570 $$$AUSTRALIA$$$
580 DRAW"S4C3BM172,12"
590 DRAW"F3D5RD3RD2F2D6F2R2E2F4D
8F4D8F2R2EF6EF4D6F4EFFD5F5D3F2D2
F2D4"
600 DRAW"LD7RNU3D264F2G2D2G2D2;M
-4,+7;HG4;M-4,+8;64D26D3G3L7HG5"
610 DRAW"L3H5G5H3G6H4UH2U4H3U
4H3U4L62D3L5E3U4E2U4HG3FG5D2H4EH
6U2L2U2L4UL3H3L5GL8"
620 DRAW"G2L2G2D2L5GL569DL12G3D2
L2G4L5HL2H2L2H2U2R2U4L2U2EU3H5;M
-2,-7;H2U3H4UH8U2"
630 DRAW"F3U3F3RUH4U7EUHU3E2D3RE
U2E8R8E4R3UR3UR2E7U6E4D4R2UR2H2U
3R2F4U3R2H2E4RU2LU2R3DRURE4"
640 DRAW"R2F6D2R2E3R2F3U2H2ESH2E
4FE2R5E2H2L4E2R7F2R3F2R3F2R7F2G2
F6H2L2D3F2G3D4R3"

```

```

650 DRAW"D2R3D2R3;M+8,+4;F3R3E3U
5E2U11E2H2E2U7E"
660 DRAW"BM+20,+158;D3G03L2D4L2G
L6LH3LHUH2R2UH2U3HU2R3F2R2F2R3ER
4"
670 RETURN
680 $$$STARS$$$
690 COLOR2,3:LINE(148,82)-(150,8
6),PSET
700 FORX=1T013:READA,B:LINE-(A,B
),PSET:NEXTX
710 PAINT(148,88),2,2:GET(136,80
)-(156,96),D,6:PUT(164,52)-(184,
68),D,PSET
720 PUT(192,76)-(212,92),D,PSET:
LINE(184,98)-(186,106),PSET:LINE
-(180,101),PSET
730 LINE-(188,101),PSET:LINE-(18
1,106),PSET:LINE-(184,98),PSET
740 PUT(164,124)-(184,140),D,PSE
T:PAINT(184,102),2,2
750 RETURN
760 DATA108,54,106,50,101,48,102
,47,107,48,113,40,108,40,99,44
770 DATA96,46,89,46,78,60,77,64,
76,80,80,84,84,86,88,85,92,84
780 DATA97,81,99,82,99,78,102,78
,104,79,108,74,112,68,108,62
790 DATA104,60,100,59,96,60,92,6
2,90,66,91,78,96,79,97,81
800 DATA99,82,92,88,88,88,84,87,

```

```

80,85,76,84,74,85,74,88,72,92
810 DATA68,98,66,100,64,106,62,1
20,61,124,60,128,56,136,52,140
820 DATA28,152,20,154,12,153,8,1
52,16,157,24,158,36,158,48,156
830 DATA48,156,66,147,60,140,68,
128,65,116,70,124,68,132,62,140
840 DATA68,144,76,149,83,156,86,
156,87,154,88,156,92,156,93,154
850 DATA95,156,98,156,96,152,84,
148,80,147,70,140,84,131,92,118
860 DATA99,108,100,100,98,96,96,
93,92,92,88,93,84,95,80,97,80,96
870 DATA84,92,88,90,92,90,96,93,
100,94,102,96,102,104,93,124
880 DATA88,141,90,143,108,130,11
4,130,118,127,116,124,120,125
890 DATA123,124,122,122,124,124,
127,122,126,120,120,118,116,120
900 DATA98,132,98,128,104,120,10
8,108,108,100,104,92,100,90,98,8
2
910 DATA154,85,152,88,154,91,150
,92,149,95,148,92,144,95
920 DATA145,91,141,90,144,88,142
,84,146,85,148,82

```

# BACK STREETS

16K

a '60 year-old granny'. (See User Friendlier this mag.) BACK STREET not only looks good, first effort or not, but it has lots to offer new users to the graphics side of CoCo. Joy Wallace, you've done yourself proud.

by  
Joy Wallace

THE LISTING:

```

1 SCREEN0,1:POKE359,13
2 CLS
3 PRINT@200,"***BACK STREET***"
4 PRINT@240,"BY":PRINT@299,"Joy
PAGE 10

```

```

wallace"
5 PRINT@96,"*****"
*****"
6 PRINT@384,"*****"
*****"
10 PMODE3,1
12 COLOR1,3
15 PCLS
25 LINE(0,80)-(255,191),PSET,BF
28 COLOR2,3
30 LINE(0,0)-(255,191),PSET,B
32 CIRCLE (230,24),12,2
33 PAINT(230,24),2,2
35 LINE(20,191)-(108,80),PSET
38 LINE(108,80)-(148,80),PSET
40 LINE(148,80)-(235,191),PSET
42 PAINT(128,170),2,2
43 COLOR4,2
44 LINE(128,191)-(128,80),PSET
46 DRAW"C3;BM145,105L4E6U10L8D10
F6BH6R8
47 PAINT(143,95),3,3
48 COLOR2,1
50 LINE(9,191)-(103,80),PSET
52 LINE(0,175)-(95,80),PSET
53 LINE(95,80)-(103,80),PSET
55 PAINT(10,180),2,2
60 DRAW"C2;BM95,80U60L60U50G1
0D50U99L45R45G40D99U90L5"
AUSTRALIAN CoCo

```

CoCo

```

62 PAINT(20,85),4,2
64 PAINT(60,85),4,2
66 PAINT(50,85),4,2
68 PAINT(2,85),4,2
69 PAINT(10,40),4,2
70 DRAW"C2;BM95,80U60L95DR95G40L
10
72 PAINT(10,30),4,2
74 PAINT(50,62),4,2
76 DRAW"C2;BM95,80G5U40G30D40G20
U77G30D77
78 LINE(246,191)-(153,80),PSET
80 LINE(255,175)-(156,80),PSET
81 LINE(153,80)-(156,80),PSET
82 PAINT(245,180),2,2
85 DRAW"C2;BM156,80U10BM255,175U
10
87 LINE(156,70)-(255,165),PSET
90 PAINT(250,165),4,2
92 DRAW"C2;BM156,70R100D10L87"
94 PAINT(250,75),4,2
96 CIRCLE(255,80),20,2,3
98 PAINT(250,75),1,2
99 PAINT(250,65),1,2
100 DRAW"C1;BM255,70L18D10R13L18
D30R1U30R1D40R1U30R1D40R1U10R1D3
0R1U10R50U70"
102 DRAW"C2;BM255,191U191"
104 DRAW"C4;BM243,130UR"

```

October, 1985

# IMPOSSIBLE

by  
Hubert Muhlbock

16K

IMPOSSIBLE is a hi-res impossibility.  
Just the thing to drive everyone up the proverbial...  
If you ever get to solve it please drop us a line.  
BECAUSE IT IS DRIVING US UP THE WALL!!!!  
By the way, don't tell Graham!

THE LISTING:

```

10 GOTO 30
20 SAVE IMPOSS:2
30 FOR S=1000 TO 1012
40 READ P:POKE S,P:NEXT
50 POKE 360,3:POKE 361,232
60 DATA 52,16,142,0,1
70 DATA 189,167,211,53
80 DATA 16,126,130,115
90 POKE 1003,20
100 'POKE 1003,0 TO GET
    NORMAL LISTING SPEED
110 '*****
*
120 'FIND THE IMPOSSIBLE TRIANGL
E
130 'A PUZZLE FOR BEGINNERS
140 'COLLECTED BY AN ENTHUSIAST
150 'MOTTO:"WE LOVE COCO"
160 'HI GRA
170 '*****
*
180 CLS 8
190 PRINT276,"FIND THE";
200 PRINT2134,"*IMPOSSIBLE TRIA
NGLE*";
210 PRINT2192,"HINT:
220 PRINT2256," DELETE TWO CHA
RACTERS IN THE PROGRAM TO FIND I
T.
230 PRINT2320,"AFTER YOU H'VEEN
FLABBERGASTED ENOUGH,PUT THEM B
ACK AGAIN.
240 PRINT2422,"W A R N I N G:
250 PRINT2482,"AND DON'T TELL GR
A ABOUT THIS DISCOVERY OF YOUR'S
.
260 '*****
270 FOR X=1 TO 9000:NEXT
280 CLS 0
290 PRINT264,"THANKS TO M.C.ESCH
ER FOR INSPIRATIONS AND M
Y GRATITUDE TO PROFESSOR TANDY
AND DR.COCCOZ.
300 PRINT2160," SPECIAL THANKS
TO JERRY BUSSE FROM THE PORT
JEFF. COLLEGE OF IMPOSSIBILI
TIES.

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AUSTRALIAN CoCo

```

310 PRINT2320,"COLLECTOR AND CON
SPIRATOR:
320 PRINT2384,"HUBERT E.MUHLBOCK
330 PRINT2416,"PUNCHBOWL NSW
340 PRINT2480,"** HOLD YOUR HORS
ES **
350 '*****
360 FOR Y=1 TO 9000:NEXT
370 PMODE3,1:PCLS 4:SCREEN 1,0
380 COLOR 1,4
390 FOR X=1 TO 40
400 READ A,B,C,D
410 LINE(A,B)-(C,D),PSET,B
420 NEXT X
430 '*****
440 PAINT(56,20),1,1:PAINT(136,6
4),1,1:PAINT(120,80),1,1
450 PAINT(192,88),3,1:PAINT(76,4
8),3,1:PAINT(120,80),3,1
460 PAINT(68,12),2,1:PAINT(80,84
),2,1:PAINT(92,128),2,1
470 PAINT(36,156),2,1:PAINT(36,1
68),1,1:PAINT(84,168),3,1
480 PAINT(88,118),2,1:PAINT(144,
86),2,1
490 FOR Y=1 TO 8000:NEXT
500 END
510 DATA 68,4,200,76,52,12,112,4
4,128,52,172,76,128,52,68,84,112
,44,84,60,128,68,100,84,68,36,96
,52,128,68,154,84,126,68,126,116
,130,54,130,68
520 DATA 68,4,52,12,172,76,142,9
0,142,76,142,108,142,108,200,76,
200,76,200,92,200,92,68,164,128,
116,84,140,52,12,52,154,52,154,6
8,164,68,164,68,100,68,36,68,84,
84,45,84,76
530 DATA 84,109,84,140,68,100,96
,116,84,124,112,108,68,84,128,11
6,84,76,112,92,112,77,112,108
540 DATA 84,119,92,115,142,86,14
8,84,180,66,186,62,186,62,236,90
,236,90,68,184,68,184,16,154,16,
154,52,133,16,154,16,160,16,160,
68,190,68,190,68,184,68,190,236,
96,236,96,236,90.
550 '*****
560 'SEE YOU LATER FOLK

```

CoCo

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```

105 COLOR2,3
106 LINE(185,100)-(255,115),PSET
107 LINE(190,105)-(255,120),PSET
108 PAINT(252,117),2,2
109 DRAW"C2;BM185,95D10F5U10H5"
110 PAINT(187,98),4,2
112 DRAW"C2;BM255,112H8U60G8E14"
114 PAINT(253,100),3,2
115 COLOR4,2
116 CIRCLE(155,170),5:CIRCLE(180
,170),5
118 DRAW "C4;BM150,170U5E2R32F2D
762L32H2U2BD4BR4D3U3R28D3U3"
119 DRAW"C4;BM152,163E5R22F5"
120 DRAW"C4;BM165,170R5BM165,167
R5"
122 DRAW"C3;BM162,163U2L1U1D1D2"
124 DRAW"C4;BM235,185U90D10R8L13
"
125 CIRCLE(230,106),5,2
126 DRAW"C4;BM169,105U65D6R8L13"
127 CIRCLE(164,46),5,2
128 PAINT(164,46),2,2:PAINT(230,
106),2,2
129 SCREEN1,0
200 GOTO124

```

CoCo

## Quick On The Draw

Our 'Quick on the Draw' contest has been extended till February '86.

This is so some of you students can study and still get a decent entry to us in time! Send it on tape and make sure you save it three times!

Some of the entries are already showing great promise. There is a rumour that the judge can be bought with pictures of railway subjects! If this is true, those submitting other material will have to try harder!

We are still working on the prizes, and they will be announced next month.

October, 1985

# HANG MAN

by Andrew White



HANGMAN has been with us for yonks, in fact, I can remember playing it with pen and pencil when I was a nipper, so you can see it has been around for quite a while.

Andrew's version is just crying out for a few 'tightning-up' lines, got any ideas?

Here's how it comes together, line for line.

1-3 Dimensions and sets required variables.

5-80 Prints Title and reads data.

90-190 Randomly picks a word and displays a "-" for each letter.

199-219 Checks if the letter has been entered before. NOTE only checks letters, so be careful not to enter numbers or full stops etc.

220-229 Checks to see if the letter entered by the user is in the randomly picked word.

230-267 Draws the hangman segments when wrong letter is chosen.

368-420 Asks operator whether he/she wants to play again.

900-980 Data line containing words.

2000-2070 The winning subroutine. Also checks whether to continue or not.

3000-4020 Checks to see if the word is complete and correct.

#### Variables List:

S% - Array for words.

P - Random number.

C% - Array to check word completion.

N% - Array to hold entered letters.

Z% - Letter input - operator.

WRBNG - Counters.

J - Loop variable.

not

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#### THE LISTING:

```

1 CLEAR 2000
2 DIM S$(200),C$(13),N$(100)
3 W=0:R=0:S=0:Q=0:N=0
5 CLS
10 PRINT#12,"HANGMAN"
60 FOR J=1 TO 200
70 READ S$(J)
80 NEXT J
90 CLSO
100 P=RND(200)
160 X=LEN(S$(P))
170 FOR J=1 TO X
180 PRINT#128+J,"-";
190 NEXT J
199 A1=0
200 PRINT#192,"LETTER";
201 INPUT Z%
202 Z%=LEFT$(Z%,1)
203 S=0
204 N=N+1:FOR J=1 TO N
205 IF Z%=N$(J) THEN 199
206 NEXT J
219 N$(N)=Z%
220 S=S+1
225 IF Z%=MID$(S$(P),S,1) THEN S
DUND 200,2 ELSE 227
226 PRINT#128+S,Z%;A1=1:ON X GO
TO 3000,3100,3200,3300,3400,3500
,3600,3700,3800,3900,4000
227 IF S<>X THEN 220
228 IF A1=0 THEN R=R+1:IF A1=0 T
HEN PRINT#R,Z%;:IF A1=1 THEN 199
229 IF S=X AND A1<>1 THEN 230
230 IF A1=1 THEN 199
231 SOUND 1,5
235 Q=Q+1
240 IF Q=1 THEN 245 ELSE 260
245 FOR J=12 TO 28
250 SET(J,31,3)
255 NEXT J
256 GOTO 199
260 IF Q=2 THEN 265 ELSE 280

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265 FOR J=30 TO 15 STEP -1
266 SET(20,J,3)
267 NEXT J
270 GOTO 199
280 IF Q=3 THEN 281 ELSE 290
281 FOR J=21 TO 33
282 SET(J,15,3)
283 NEXT J
284 SET(33,16,5)
285 GOTO 199
290 IF Q=4 THEN 291 ELSE 300
291 SET(25,16,3)
292 SET(24,17,3):SET(23,18,3)
293 SET(22,19,3):SET(21,20,3)
294 GOTO 199
300 IF Q=5 THEN 301 ELSE 310
301 FOR J=32 TO 34
302 FOR G=17 TO 18
303 SET(J,G,5)
304 NEXT G,J
305 GOTO 199
310 IF Q=6 THEN 311 ELSE 320
311 SET(33,19,5)
312 FOR J=31 TO 35
313 FOR G=20 TO 24
314 SET(J,G,5)
315 NEXT G,J
316 GOTO 199
320 IF Q=7 THEN 321 ELSE 330
321 SET(30,20,5):SET(29,21,5):SE
T(28,22,5):SET(27,23,5)
322 GOTO 199
330 IF Q=8 THEN 331 ELSE 340
331 SET(36,20,5):SET(37,21,5):SE
T(38,22,5):SET(39,23,5)
332 GOTO 199
340 IF Q=9 THEN 341 ELSE 350
341 FOR J=25 TO 29
342 SET(31,J,5)
343 NEXT J
344 SET(30,29,5)
345 GOTO 199
350 FOR J=25 TO 29
351 SET(35,J,5)
352 NEXT J
353 SET(36,29,5)
360 PRINT#278,"ARRGH!!";
365 FOR K=200 TO 1 STEP -5
366 SOUND K,1
367 NEXT K
368 CLSO
370 PRINT#256,"TOUGH LUCK KID.YO
UR DEAD.HAHAAHAA"
380 PRINT"THE WORD WAS "S$(P)" W
ANT TO TRY AGAIN";
390 INPUT M%
400 IF M%="Y" THEN RUN
410 IF M%="N" THEN END
420 GOTO 390
899 GOTO 199

```

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900 ABANDON,ABDICATE,ABDUCT  
 901 DATA ACROBAT,ACROPOLIS,ACRID  
 902 DATA AERIAL,AFFORD,AFFINITY  
 903 DATA ALTERNATE,AMBIGUOUS,AMBU  
 USH  
 904 DATA ANNOY,ANTIDOTE,ANTICIPA  
 TE  
 905 DATA AVENUE,AUTHENTIC,BALLOO  
 N  
 906 DATA BAMBOOZLE,BARNACLE,BARR  
 ICAD  
 907 DATA BASSINET,BEARING,BEHALF  
 908 DATA BELFRY,BELLOWS,BETROTH  
 909 DATA BLASPHEMY,BLANKET,BLADD  
 ER  
 910 DATA BOUND,BOWLER,BRUSQUE  
 911 DATA BUGLE,BUCKET,BROKER  
 912 DATA CALAMITY,CALENDAR,CALC  
 IUM  
 913 DATA CAMOUFLAGE,CANDID,CANIN  
 E  
 914 DATA CANYON,CAPABLE,CAPSULE  
 915 DATA CAMINE,CARNAGE,CARRY  
 916 DATA DANCE,DARK,DARLING  
 917 DATA DEAD,DEAL,DEAN  
 918 DATA DEBT,DECIDE,DELINQUENT  
 919 DATA DEODORIZE,DEPRICIATE,DE  
 TAIL  
 920 DATA DEVELOP,DIAMOND,DIFFICU  
 LT  
 921 DATA ETERNAL,EVENING,EXHIBIT  
 ION  
 922 DATA ELECTRICTY,EMBARK,ENTER  
 TAIN  
 923 DATA EROTIC,ECCENTRIC,ELABOR  
 ATE  
 924 DATA EFFERVESCENCE,EFFORT,EG  
 G  
 925 DATA ELASTIC,ELBOW,ELECTRICA  
 L  
 926 DATA FARAD,FEATHER,FEATURE  
 927 DATA FEINT,FELLOW,FEMININE  
 928 DATA FINANCE,FINGER,FLAMBOYA  
 NT  
 929 DATA FLANNEL,FLEXIBLE,FORMAT  
 ION  
 930 DATA FOUNTAIN,FUMIGATE,FUTIL  
 E  
 931 DATA GNARLED,GOLDEN,GRABBLE  
 932 DATA GUARDIAN,GUSSET,GUTTER  
 933 DATA HANDKERCHIEF,HARMONY,HE  
 ATHEN  
 934 DATA HELMET,HOROSCOPE,HUMBLE  
 935 DATA IGNORANT,IMMUNE,IMPERIA  
 L  
 936 DATA IMPOTENT,INCIDENCE,INFL  
 UENZA  
 937 DATA INNOVATE,INTELLECT,INTR  
 OVERT  
 938 DATA IRRATIONAL,JOURNEY,KALE  
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IDUSCOPE  
 939 DATA KNAPSACK,KOALA,LABORATO  
 RY  
 940 DATA LAMA,LARYNX,LEATHER  
 941 DATA LEGION,LEGISLATE,LIBERA  
 L  
 942 DATA LIGHTEN,LIQUORICE,LONGI  
 TUDE  
 943 DATA LOUSE,LYMPH,MAGNESIUM  
 944 DATA MAGNET,MANIKIN,MANUSCRI  
 PT  
 945 DATA MARKET,MERINGUE,MILLION  
 946 DATA MINERAL,MOLTEN,MURDER  
 947 DATA NAVIGATE,NECESSARY,NEED  
 LESS  
 948 DATA NOBLE,NOMINATE,NUMERATI  
 ON  
 949 DATA OBLIVION,OFFICE,OLYMPIC  
 950 DATA OPINION,ORCHESTRA,ORTHO  
 DOX  
 951 DATA OUTER,OVERTURE,PANACEA  
 952 DATA PAMPER,PAMPHLETT,PARALY  
 SE  
 953 DATA PARTITION,PATENT,PEASAN  
 T  
 954 DATA PERISCOPE,PERPETUAL,PHA  
 RMACY  
 955 DATA PINION,PLATINUM,PLEASAN  
 T  
 956 DATA PLUMMET,COCO,PNEUMONIA  
 957 DATA POSSIBLE,POTENTIAL,PRED  
 ICT  
 958 DATA PRELIMINARY,PRETEND,PRO  
 BABLY  
 959 DATA PROGRESS,PROGRESSION,PR  
 OPHET  
 960 DATA PUDDLE,PURCHASE,QUALIFY  
 961 DATA QUICK,RADICAL,RANK  
 962 DATA REFORM,SQUINT,STADIUM  
 963 DATA REFORM,SQUINT,STADIUM  
 964 DATA STANDING,TANDEM,TAPESTR  
 Y  
 965 DATA TOBACCO,TOLERATE,TRACHE  
 A  
 966 DATA TRAMPOLINE,TRAVELLER,BA  
 NK,TASMANIA  
 980 DATA EOF(0)  
 2000 FOR J=1 TO 200 STEP 5  
 2010 SOUND J,1  
 2015 NEXT J  
 2020 CLS0  
 2030 PRINT256,"\*\*\*\*\*CONGRATU  
 LATIONS\*\*\*\*\*"  
 2040 PRINT"DO YOU WISH TO HAVE A  
 NOTHER GAME"  
 2050 INPUT G\$  
 2060 IF G\$="Y" THEN RUN  
 2070 IF G\$="N" THEN END ELSE 205  
 0  
 3000 C\$(5)=Z\$

3010 C\$=C\$(1)+C\$(2)+C\$(3)  
 3020 IF C\$=S\$(P) THEN 2000 ELSE  
 227  
 3100 C\$(5)=Z\$  
 3110 C\$=C\$(1)+C\$(2)+C\$(3)+C\$(4)  
 3120 IF C\$=S\$(P) THEN 2000 ELSE  
 227  
 3200 C\$(5)=Z\$  
 3210 C\$=C\$(1)+C\$(2)+C\$(3)+C\$(4)+  
 C\$(5)  
 3220 IF C\$=S\$(P) THEN 2000 ELSE  
 227  
 3300 C\$(5)=Z\$  
 3310 C\$=C\$(1)+C\$(2)+C\$(3)+C\$(4)+  
 C\$(5)+C\$(6)  
 3320 IF C\$=S\$(P) THEN 2000 ELSE  
 227  
 3400 C\$(5)=Z\$  
 3410 C\$=C\$(1)+C\$(2)+C\$(3)+C\$(4)+  
 C\$(5)+C\$(6)+C\$(7)  
 3420 IF C\$=S\$(P) THEN 2000 ELSE  
 227  
 3500 C\$(5)=Z\$  
 3510 C\$=C\$(1)+C\$(2)+C\$(3)+C\$(4)+  
 C\$(5)+C\$(6)+C\$(7)+C\$(8)  
 3520 IF C\$=S\$(P) THEN 2000 ELSE  
 227  
 3600 C\$(5)=Z\$  
 3610 C\$=C\$(1)+C\$(2)+C\$(3)+C\$(4)+  
 C\$(5)+C\$(6)+C\$(7)+C\$(8)+C\$(9)  
 3620 IF C\$=S\$(P) THEN 2000 ELSE 2  
 27  
 3700 C\$(5)=Z\$  
 3710 C\$=C\$(1)+C\$(2)+C\$(3)+C\$(4)+  
 C\$(5)+C\$(6)+C\$(7)+C\$(8)+C\$(9)+C\$  
 (10)  
 3720 IF C\$=S\$(P) THEN 2000 ELSE  
 227  
 3800 C\$(5)=Z\$  
 3810 C\$=C\$(1)+C\$(2)+C\$(3)+C\$(4)+  
 C\$(5)+C\$(6)+C\$(7)+C\$(8)+C\$(9)+C\$  
 (10)+C\$(11)  
 3820 IF C\$=S\$(P) THEN 2000 ELSE  
 227  
 3900 C\$(5)=Z\$  
 3910 C\$=C\$(1)+C\$(2)+C\$(3)+C\$(4)+  
 C\$(5)+C\$(6)+C\$(7)+C\$(8)+C\$(9)+C\$  
 (10)+C\$(11)+C\$(12)  
 3920 IF C\$=S\$(P) THEN 2000 ELSE  
 227  
 4000 C\$(5)=Z\$  
 4010 C\$=C\$(1)+C\$(2)+C\$(3)+C\$(4)+  
 C\$(5)+C\$(6)+C\$(7)+C\$(8)+C\$(9)+C\$  
 (10)+C\$(11)+C\$(12)  
 4020 IF C\$=S\$(P) THEN 2000 ELSE  
 227

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8.8.

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WELCOME TO THE CAVERNS OF

# NarZod

I AM THE LORD NARZOD...

ALL INTRUDERS WHO DARE  
ENTER MY DOMAIN WILL BE  
TOTALLY DESTROYED.  
I AM PROTECTED BY GIANT  
SPIDERS.  
IF YOU STOP MOVING MY  
SPIDERS WILL ATTACK  
WITHOUT MERCY!!!  
I WILL CLOSE THE CAVES  
WITH STEEL DOORS. YOU  
HAVE NO HOPE!!  
IF YOU ENTER MY CAVES I  
CAN TRACE YOU WITH MY  
RADAR.  
IF YOU REACH MY INNER  
CHAMBER...YOU HAVE TO GO  
OUT THE WAY YOU CAME IN,  
WHILE AVOIDING MY LOVELY  
SPIDERS.  
SOME OF MY DOORS YOU CAN  
PASS THROUGH BUT YOU  
CAN'T TELL TILL YOU  
TRY...ALSO I CAN, AT  
TIMES, AFFECT YOUR SHIPS  
HANDLING.  
SO GET ABOARD YOUR FUNY  
LITTLE SHIP AND TEST THE  
FURY OF....NARZOD!

PCLEAR8 must be typed in before  
loading NARZOD from cassette.  
PCLEAR8 should also be used for  
CoCo AGRO from August Aussie CoCo  
(oops sorry Max.)

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THE LISTING:

```

1 SP=1: CLEAR150,32073: DIMA(93),B
  (22),C(3),D(3),E(2),R(100),L(57
  ),S1(2),S2(2),S3(2),S4(2): PMODE4
  : PCLS
2 CIRCLE(8,5),2,,5: LINE(9,5)-(3
  ,7),PSET: LINE(9,5)-(3,3),PSET: IF
  S=0 THEN GET(0,1)-(10,9),S1,G: S=1
3 CIRCLE(3,5),1: GET(0,1)-(10,9),
  S2,G: PCLS: CIRCLE(6,5),2,,5: LINE
  (5,5)-(11,7),PSET: LINE(5,5)-(11,
  3),PSET: IFS=1 THEN GET(4,1)-(14,9)
  ,S3,G
4 CIRCLE(11,5),1: GET(4,1)-(14,9)
  ,S4,G: PCLS
5 IFM=1 THEN PCLS
6 CIRCLE(128,93),3,,.75: PAINT(12
  8,96): CIRCLE(127,95),1,0: CIRCLE(
  129,95),1,0: PSET(128,95): PSET(12
  5,94): PSET(131,94): LINE(130,96)-
  (132,93),PSET: LINE(126,96)-(124,
  93),PSET
7 IFM=0 THEN CIRCLE(128,97),1,0: LI
  NE(132,93)-(132,99),PSET: LINE(12
  4,93)-(124,99),PSET: GET(122,91)-
  (134,101),C,G: M=1: GOT05
8 IFM=1 THEN LINE(132,93)-(134,99)
  ,PSET: LINE(124,93)-(122,99),PSET
  : GET(122,91)-(135,101),D,G: LINE(
  1,1)-(2,20),PSET,G: GET(0,0)-(3,2
  5),E,G
9 GOT023
10 IF PPOINT(121,96)=0 THEN 90
11 IF PPOINT(109,96)=0 THEN 90
12 IF PPOINT(115,91)=0 THEN 90
13 IF PPOINT(115,101)=0 THEN 90
14 RETURN
15 FORT=1T025STEP3: PMODE4: GOSUB1
  AUSTRALIAN CoCo

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9: PUT(177,110)-(179,110-T);E,PSE
T: GOSUB29: NEXT: GOT0107
16 FORT=1T025STEP3: PMODE4: GOSUB1
9: PUT(80,110)-(82,110-T);E,PSET:
GOSUB29: NEXT: GOT0112
17 PMODE4: PUT(112,120)-(124,130)
,C,PRESET: GOSUB29: GOT0117
18 PMODE4: PUT(112,55)-(125,65),D
,PRESET: GOSUB29: GOT0122
19 IFH<32 THEN 21
20 IFH<32 THEN 23
21 IFSH=1 THEN PUT(110,92)-(120,10
0),S1,PRESET: SH=0: RETURN
22 IFSH=0 THEN PUT(110,92)-(120,10
0),S2,PRESET: SH=1: RETURN
23 IFSH=0 THEN PUT(110,92)-(120,10
0),S3,PRESET: SH=1: RETURN
24 IFSH=1 THEN PUT(110,92)-(120,10
0),S4,PRESET: SH=0: RETURN
25 ON SP GOT026,27
26 PUT(A,B)-(A+12,B+10),C,PRESET
: PUT(C,D)-(C+12,D+10),C,PRESET: P
UT(E,F)-(E+12,F+10),C,PRESET: SP=
2: RETURN
27 PUT(A,B)-(A+13,B+10),D,PRESET
: PUT(C,D)-(C+13,D+10),D,PRESET: P
UT(E,F)-(E+13,F+10),D,PRESET: SP=
1: RETURN
28 POKE65495,0: A$="N": GOT031
29 PCOPY2T06: PCOPY3T07: PMODE4,5:
SCREEN1,1: RETURN
30 FORT=1T0400: NEXT: FORT=1T030: E
XED32177: NEXT: RETURN
31 AD=32073: FOR I=AD TO AD+147: RE
AD: POKEI,J: NEXT I
32 DATA 142,11,151,198,15,166,13
2,70,70,70,132,192,52,2,166,132,
68,68,52,2,166,31,70,70,70,132,1
92,170,224,167,132,48,31,90,38,2
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```



```
34,0,132,68,68,170,224,167,132,4
8,136,47,140,23,151,47,207,57
33 DATA 142,11,136,198,15,166,13
2,73,73,73,132,3,52,2,166,132,72
,72,52,2,166,1,73,73,73,132,3,17
0,224,167,128,90,38,236,166,132,
72,72,170,224,167,132,48,136,17,
140,23,136,38,209,57
34 DATA 142,11,168,198,16,166,12
8,167,136,191,90,38,248,48,136,1
6,140,23,136,38,238,57
35 DATA 142,23,104,198,16,166,12
8,167,136,63,90,38,248,48,136,20
8,140,11,168,38,238,57
36 GOT055
37 FOR L=1T0 LEN(W$):P$=MID$(W$,
L,1):IFP$=" " THEN43
38 IFSK=0THENEXEC32126:EXEC32126
39 DRAW"BM"+STR$(A)+" "+STR$(B)+
";S4":DRAW L$(ASC(P$)-33)
40 IFA$="N"THENPOKE178,RND(255):
LINE(20,37)-(36,36),PSET,B:POKE1
78,RND(255):LINE(20,38)-(35,39),
PSET,B:POKE178,3
41 IFA$="Y"THENPOKE178,RND(255):
LINE(120,58)-(137,59),PSET,B:POK
E178,RND(255):LINE(120,60)-(137,
61),PSET,B:POKE178,3
42 IFPOINT(10,190)=5THENDRAW"CO
"
43 IFSK=0THENA=A+3:NEXT:RETURN
44 IFSK=1THENA=A+8:NEXT:RETURN
45 FOR J=0T030:READ R$:L$(J)=R$:
NEXT J
46 DATA BR2ND1BU2U4,BR1BU4U1BR2D
1,BR1U2L1BU2R1U2BR2D2R1BD2L1D2,B
U1R2ND1R1E1H1L2H1E1R1NU1R2,U1E4U
1BL4D1BF4D1,BR4H1U1H3E1F1G2D2F1R
1E2U1,BR2BU4U2,BR2H1U4E1,BR2E1U4
H1
47 DATA BU2E2NH2NU2NE2NF2D2,BR2B
U1U2NL2NU2R2,BR2NU1G1,BU3R4,BR2U
1,U1E4U1,BU1NE4U4E1R2F1D4G1L2H1,
R2NR2U6L1G1,NR4E4U1H1L2G1,BU1F1R
2E1U1H1NL2E1U1H1L2G1,BR3U6G3R4
48 DATA BU1F1R2E1U2H1L2G1U3R4,BU
3E1R2F1D2G1L2H1U4E1R3,E4U2L4D1,B
U1U1E1NR2H1U1E1R2F1D1G1F1D1G1L2H
1,BR1R2E1U4H1L2G1D2F1R2E1,BR2U1B
U2U1,BR1BD1E1U1BU2U1,BU3NE3F3
49 DATA BU1R4BU2L4,BR1E3H3,BU5E1
R2F1D1G1L1D1BD2D1
50 FOR J=32T057:READ R$:L$(J)=R$:
NEXT J
51 DATA U4E2F2D2NL4D2,R3E1U1H1E1
U1H1L3R1D3NR2D3,BE4BU1H1L2G1D4F1
R2E1,R3E1U4H1L2NL1D6,PA11BU4U1L3
NL1D3NR2D3,R1NR1U3NR2U3NL1R3D1,B
E2R1NR1D1ND1G1L1H1U4E1R2D1,U3NU3
R4NU3D3,BR1R1NR1U6NL1R1,BU1NU1F1
```

```
R1E1U5NL1R1
52 DATA R1U6NL1BD3R1E2U1BD5ND1H2
,R4U1BG1BL2U6NL1R1,U6F2E2D6,U6F4
NU4D2,BU1U4E1R2F1D4G1L2H1,R1NR1U
6NL1R2F1D1GL2,BU1U4E1R2F1D4G1D1R
1BH1L2H1,U6R3F1D1G1L1NL2F2D1,BU1
F1R2E1U1H1L2H1U1E1R2F1,BR2U6NL2R
2
53 DATA BU1NU5F1R1E1R1ND1U5,BU3N
U3F1D1F1E1U1E1U3,NU6E2F2U6,U1E4U
1BL4D1F4D1,BR1R1NR1U3H2U1BR4D162
,BU5U1R4D1G4D1R4U1
54 RETURN
55 GOSUB45
56 PMODE4:SCREEN1,1:PCL55
57 LINE(0,0)-(256,196),PRESET,B
58 IFX<256THENLINE(0+X,0)-(128,8
6),PRESET:LINE(256-X,192)-(128,8
6),PRESET:X=X+4.4:GOT058
59 IFY<192THENLINE(0,192-Y)-(128
,100),PRESET:LINE(256,0+Y)-(128,
100),PRESET:Y=Y+3.38:GOT059
60 CIRCLE(115,80),9,0:CIRCLE(118
,85),2,0:CIRCLE(140,80),9,0:CIRC
LE(138,85),2,0:DRAW"BM128,90;F9L
18E9BD15R10D5L20U5R10BL15NH8BR30
E8":GOT062
61 LINE(5,180)-(194,190),PRESET,
BF:RETURN
62 GOSUB61:SK=1:A=8:B=188:W$="CE
NTRE RIGHT JOYSTICK":GOSUB37:SK=
0:GET(105,75)-(150,115),A,6
63 FORT=1T040:PUT(5,45)-(50,45-T
),A,PSET:NEXT
64 LINE(64,122)-(191,139),PRESET
,BF:GOSUB61:PCOPY1T05:PCOPY2T06:
PCOPY3T07:PCOPY4T08:PMODE4,5:PUT
(5,5)-(50,45),A,PSET:LINE(5,5)-(
50,45),PRESET,B:LINE(6,6)-(49,44
),PSET,B:LINE(50,12)-(220,22),PR
ESET,BF:A=60:B=20:W$=" NARZO
D "
65 SK=1:GOSUB37:SK=0:PMODE4
66 PMODE4,5:LINE(194,144)-(246,1
90),PSET,BF:LINE(194,144)-(246,1
90),PRESET,B:CIRCLE(220,167),22,
0:CIRCLE(220,167),2,0:GET(194,14
4)-(250,190),R,6
67 IFF<100THENPUT(50+F,170)-(60+
F,178),S1,PRESET:LINE(48+F,168)-
(64+F,178),PRESET,B:F=F+20:GOT06
7
68 F=0:SK=1:A=8:B=188:W$="BEWARE
LORD NARZOD":GOSUB37:GET(50,170
)-(150,178),B,S:SK=0
69 PMODE4:SCREEN1,1
70 A=110:B=130:W$="NARZOD " :G
OSUB37:GOSUB73:A=130:B=130:W$="E
Y":GOSUB37:GOSUB73
71 A=129:B=130:W$="MAXBETTRIDGE"
```

```
:GOSUB37:GOSUB73
72 A=110:B=130:W$="FOR 32K ECB":
GOSUB37:GOSUB73:FORT=1T04:EXEC32
126:NEXT:GOSUB61:FORT=1T040:EXEC
32177:NEXT:GOT074
73 FORT=1T08:EXEC32177:NEXT:FORT
=1T014:EXEC32073:NEXT:RETURN
74 A=140:B=96:W$="INSTRUCTIONS Y
/N":GOSUB37
75 EXEC32126:A$=INKEY$:IFA$="Y"
HEN157ELSEIFA$="N"THENPOKE32160,
0:GOT076ELSE75
76 PMODE4:SCREEN1,1:PCOPY6T02:PC
OPY7T03:FORR=1T05:FORT=1T08:EXEC
32199:NEXTT:FORU=1T08:EXEC32177:
NEXTU,R:LINE(65,45)-(180,50),PRE
SET,BF:GOSUB61:FU=0
77 FORT=1T0300:NEXT:FORT=1T027:E
XEC32199:NEXT:SK=1:A=80:B=60:W$=
"ABANDON":GOSUB37:A=80:B=70:W$="
ALL HOPE YE":GOSUB37:A=80:B=80:W
$="TRESSPASSERS":GOSUB37:A=80:B=
90:W$="WHO ENTER THE":GOSUB37:A=
80:B=100:W$="FORTRESS":GOSUB37
78 FORT=1T01000:NEXT
79 LINE(70,45)-(150,70),PSET,BF:
FORT=1T040:EXEC32199:NEXT
80 GOSUB61:A=8:B=188:W$="ENTER M
Y FORTRESS-FOOL":GOSUB37:PMODE4
81 IFJA<30THENLINE(150+JA,85)-(1
52+JA,105),PSET,BF:JA=JA+2:GOT08
1
82 JA=0:GOSUB61
83 A1=80:EX=200:AX=167:Q=0
84 PMODE4:H=JOYSTK(0):V=JOYSTK(1
):GOSUB19:GOSUB10
85 IFFU>1THENPMODE4,5:FU=FU+1:PS
ET(57+FU,25):PMODE4
86 IFFU>110ANDF2=0THENGOSUB61:A=
5:B=188:W$="FUSE NEARLY GONE":GO
SUB37:F2=1
87 IFFU>125THEN180
88 IFEX>218ANDEX<222THEN89ELSE92
89 IFAX>165ANDAX<169THEN127ELSE9
2
90 PMODE4,5:SCREEN1,1:POKE65314,
RND(100):FORX=1T06STEP2:CIRCLE(1
14,96),X,0:NEXT:FORX=1T06:CIRCLE
(114,96),X,5:NEXT:IFQA<100THENLI
NE(48+QA,168)-(64+QA,178),PRESET
,BF:QA=QA+20:PMODE4:IFQA<100THEN
SCREEN1,1:LINE(98,86)-(138,106),
PSET,BF:A1=70
91 IFQA=100THEN158ELSERETURN
92 PMODE4,5:PRESET(EX,AX):PMODE4
93 IFH>62ANDZ=1THENEX=EX+.1:IFRN
D(20)=5THEN15ELSE107
94 IFH>62ANDZ=0THENLINE(180,48)-
(191,141),PRESET,BF:EX=EX+.1:GOT
0107
```

```
95 IFH<1ANDAZ=0THENEX=EX-.1:LINE
(64,48)-(75,141),PRESET,BF:GOTO1
12
96 IFH<1ANDAZ=1THENEX=EX-.1:IFRN
D<20>=5THENGOTO16ELSE112
97 IFV>62ANDZA=0THENAX=AX+.1:LIN
E<64,141>-(191,138),PRESET,BF:GO
T0117
98 IFV>62ANDZA=1THENAX=AX+.1:IFR
ND<20>=5THEN17ELSE117
99 IFV<1ANDZB=0THENAX=AX-.1:LINE
(64,43)-(191,50),PRESET,BF:GOTO1
22
100 IFV<1ANDZB=1THENAX=AX-.1:IFR
ND<20>=5THEN18ELSE122
101 GOSUB102:GOTO105
102 QNSP GOTO103,104
103 PUT(A1,92)-(A1+12,102),C,PRE
SET:A1=A1+1:SP=2:IFIN=1THENRETUR
NELSE105
104 PUT(A1,92)-(A1+13,102),D,PRE
SET:A1=A1+1:SP=1:IFIN=1THENRETUR
NELSE105
105 GOSUB29:Z=0:AZ=0:ZA=0:ZB=0:1
FFU=1THENPMODE4:LINE<63,48>-(170
,140),PSET,BF:GOSUB29:LINE<63,48
>-(170,140),PSET,BF:FU=2:GOTO84
106 GOTO84
107 IFA1>70THENA1=A1-2
108 GOSUB10:Z=1:AZ=0:LINE<178,10
5+RND(10)>-(179,85-RND(10)),PSET
,B:EXEC32126:GOSUB29:IFRND(25)=5
THEN110
109 IFRND(25)=5THEN111ELSE84
110 FORT=1TORND(15):PMODE4:GOSUB
19:LINE<178,40>-(179,96),PSET,B:
LINE<178,94>-(179,105+RND(9)),PS
ET,B:EXEC32126:GOSUB29:NEXT:GOTO
84
111 FORT=1TORND(15):PMODE4:GOSUB
19:LINE<178,96>-(179,139),PSET,B
:LINE<178,96>-(179,86-RND(9)),PS
ET,B:EXEC32126:GOSUB29:NEXT:GOTO
84
112 GOSUB10:AZ=1:Z=0:LINE<80,110
+RND(10)>-(81,80-RND(10)),PSET,B
:EXEC32073:GOSUB29
113 IFRND(25)=5THEN115
114 IFRND(25)=5THEN116ELSE84
115 FORT=1TORND(15):PMODE4:GOSUB
19:LINE<80,45>-(81,96),PSET,B:LI
NE<80,96>-(81,110+RND(10)),PSET,
B:EXEC32073:GOSUB29:NEXT:GOTO84
116 FORT=1TORND(15):PMODE4:GOSUB
19:LINE<80,96>-(81,142),PSET,B:L
INE<80,96>-(81,80-RND(10)),PSET,
B:EXEC32073:GOSUB29:NEXT:GOTO84
117 GOSUB10:ZA=1:ZB=0:LINE<90+RN
D(10),136>-(140-RND(10),137),PSE
T,B:T=RND(10):Q=RND(10):EXEC3217
PAGE 16
```

```
7:GOSUB29
118 IFRND(25)=5THEN120
119 IFRND(25)=5THEN121ELSE84
120 FORT=1TORND(15):PMODE4:GOSUB
19:LINE<128,136>-(190,137),PSET,
B:LINE<108-RND(10),136>-(128,137
),PSET,B:GOSUB19:EXEC32177:GOSUB
29:NEXT:GOTO84
121 FORT=1TORND(15):PMODE4:GOSUB
19:LINE<128,136>-(65,137),PSET,B
:LINE<128+RND(10),136>-(128,137)
,PSET,B:GOSUB19:EXEC32177:GOSUB2
9:NEXT:GOTO84
122 GOSUB10:ZB=1:ZA=0:LINE<90+RN
D(10),50>-(140-RND(10),51),PSET,
B:EXEC32199:GOSUB29
123 IFRND(25)=5THEN125
124 IFRND(25)=5THEN126ELSE84
125 FORT=1TORND(15):PMODE4:GOSUB
19:LINE<128,50>-(190,51),PSET,B:
LINE<108-RND(10),50>-(128,51),PS
ET,B:EXEC32199:GOSUB29:NEXT:GOTO
84
126 FORT=1TORND(15):PMODE4:GOSUB
19:LINE<65,50>-(128,51),PSET,B:L
INE<128+RND(10),50>-(128,51),PSE
T,B:EXEC32199:GOSUB29:NEXT:GOTO8
4
127 PMODE4,5:SCREEN1,1:GOSUB61:A
=B:8=188:W$="ENTER NARZODS CHAMB
ER":GOSUB37:FORT=1T050:PMODE4:LI
NE<178,48>-(179,140),PSET,B:EXE
C32126:GOSUB19:GOSUB29:NEXT:PMD
E4:GOSUB174:PMODE4,5
128 PMODE4,5:SCREEN1,1:FORT=1T04
0:PUT<5,45>-(50,45-T),A,PRESET:N
EXT:PCOPY1T05
129 GOSUB61:A=8:B=188:W$="DEFEND
YOURSELF 'WORM'":GOSUB37:X=112:
Y=92:A=80:B=60+RND(20):C=80:D=13
0-RND(20):E=120+RND(30):F=50+RND
(20)130 PMODE4:SCREEN1,1
131 H=JOYSTK(0):V=JOYSTK(1):IFH<
40THENX=X+1
132 IFH<20THENX=X-1
133 IFV>40THENY=Y+1
134 IFV<20THENY=Y-1
135 IFA<X THENA=A-RND(0)
136 IFC<X THENC=C-RND(0)
137 IFE<X THENE=E-RND(0)
138 IFA<X THENA=A+RND(0)
139 IFC<X THENC=C+RND(0)
140 IFE<X THENE=E+RND(0)
141 IFB<Y THENB=B-RND(0)
142 IFD<Y THEND=D-RND(0)
143 IFF<Y THENF=F-RND(0)
144 IFB<Y THENB=B+RND(0)
145 IFD<Y THEND=D+RND(0)
146 IFF<Y THENF=F+RND(0)
147 GOSUB25
```

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```
148 IFX<70ANDY>90ANDY<100THENGOT
0175
149 IF H>32THENPUT(X,Y)-(X+10,Y+
8),S1,PRESET:GOTO152
150 IFH<32THENPUT(X,Y)-(X+10,Y+8
),S3,PRESET:GOTO152
151 GOTO131
152 IFPOINT(X-1,Y)=0THEN155
153 IFPOINT(X+11,Y+5)=0THEN155
154 GOTO131
155 FORZ=1T015STEPRND(3):CIRCLE<
X+5,Y+4>,Z,0:NEXT:FORZ=15T01STEP
-1:CIRCLE(X+5,Y+4),Z,5:NEXT:X=11
2:Y=92
156 IFQA<100THENPMODE4,5:SCREEN1
,1:IFQA<100THENLINE<48+QA,168>-(
64+QA,178),PRESET,BF:QA=QA+20:PC
OPY8T04:IFQA=100THEN158ELSE130
157 POKE32160,0:PMODE4:SCREEN1,1
:PCLS:GOSUB162:PMODE4,5:SCREEN1,
1:PCOPY5T01:PCOPY6T02:PCOPY7T03:
PCOPY8T04:GOSUB61:GOTO76'INSTRUC
TIONS
158 FZ=0:PMODE4,5:SCREEN1,1:GOSU
B61:A=8:B=188:W$="ANOTHER TRY.?.
KNAVE.Y/N":GOSUB37
159 IFFU>1THENPCOPY1T05:FU=0
160 D$=INKEY$:IFD$="Y"THENPUT<50
,170>-(150,178),B,PSET:PUT<194,1
44>-(250,190),R,PSET:QA=0:GOTO76
161 IFD$="N"THEN177ELSE158
162 SK=1:PCOPY6T01:PCOPY7T02:A=1
05:B=85:W$="BEWARE":GOSUB37:A=5:
B=110:W$="I AM LORD NARZOD.....
.....":GOSUB37:A=5:B=120:W$="
ALL INTRUDERS WHO DARE ENTER MY
":GOSUB37:A=5:B=130:W$="DOMAIN W
ILL BE TOTALY DESTROYED":GOSUB37
163 IN=1:A=5:B=150:W$="I AM PROT
ECTED BY GIANT SPIDERS":GOSUB37:
FORT=1T0240:GOSUB102:NEXT:IN=0:P
CLS:PCOPY6T01:PCOPY7T02:DRAW"CO
":A=5:B=130:W$="IF YOU STOP MOVI
NG MY SPIDERS":GOSUB37:A=5:B=140
:W$="WILL ATTACK WITHOUT MERCY":
GOSUB37
164 GOSUB171:A=5:B=130:W$="I WIL
L CLOSE THE CAVES WITH":GOSUB37:
A=5:B=140:W$="STEEL DOORS. YOU H
AVE NO HOPE !":GOSUB37:GOSUB171:
A=5:B=120:W$="IF YOU ENTER MY CA
VES I CAN":GOSUB37:A=5:B=130:W$="
TRACE YOU WITH MY RADAR..SEE..?
":GOSUB37
165 PMODE4,5:PMODE4:SCREEN1,1:PU
T<194,144>-(250,190),R,PSET:X=20
0:Y=167:FORT=1T015:PRESET(X,Y):X
=X+1:GOSUB173:NEXT:FORT=1T020:PR
ESET(X,Y):Y=Y+1:GOSUB173:NEXT:L1
NE<0,110>-(256,140),PSET,BF
```

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# FROG RACE

by Tom Lehane

Two frogs line up for the big hop race. Number one lane has 'GROWLER', part Cane Toad, from Queensland. In number two lane we have 'MIGHTY MICRO'. MM comes from top breeding stock along the Murray River and he ain't no dope either folks.

They will attempt to hop their way to the yellow finish line, first one there wins. Each 'frog' will advance by the number you stop with the die roll on the upper screen, using the spacebar to halt its roll. You can play against an opponent or the computer. When you play against the computer it will take frog two and automatically stop the die for its move. Play is then passed to frog number one. When it's your turn, your frog number will be shown and the die will be rolling. At the start of each game a player needs to press the spacebar. There is another die roll and its outcome decides who will go first.

THE LISTING:

16K

```

10 CLS:PRINT TAB(11)"FROG RACE"
20 PRINT:PRINT"NEED INSTRUCTIONS"
.
30 PRINT"... Y = YES"
40 PRINT#384,"PROGRAM BY TOM LEHANE 1985"
50 I$=INKEY$:IF I$=""THEN 50
60 IF I$="Y" THEN GOSUB 860
70 GOSUB 750
80 GOTO 110
90 SOUND200,1:SOUND100,5:SOUND150,1
100 RETURN
110 CLS0
120 F$=CHR$(137)+CHR$(134)
130 R$=CHR$(134)+CHR$(137)
140 F1=161
150 F2=353
160 BL$=CHR$(128)+CHR$(128)
170 PRINT#0,"PRESS SPACE BAR TWO STOP DIE":PRINT"TO SEE WHO GOES FIRST"
180 T=RND(6)
190 T$=INKEY$:IF T$=CHR$(32) THEN 220
200 IF T$="" THEN PRINT#58,T;
210 GOTO 180
220 IF T>3 THEN FLAG=1
230 GOSUB 670
240 PRINT#10,"frog"BL$"race";
250 PRINT#66,"DIE-ROLL )";
260 PRINT#81,"FROG NO. ";
270 FOR X=2 TO 62
280 SET(X,8,6):SET(X,16,6)
290 SET(X,19,6):SET(X,27,6)
300 NEXT X
310 FOR Y=8 TO 16
320 SET(62,Y,2):NEXT
330 FOR Y=19 TO 27
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340 SET(62,Y,2):NEXT
350 PRINT#F2,F$;PRINT#F2+32,R$;
360 REM *** RETURN FOR ONE
370 PRINT#F1,F$;PRINT#F1+32,R$;
380 IF F1=>189 THEN GOTO 520
390 FLAG = FLAG+1
400 IF FLAG=1 THEN GOTO 540
410 IF FLAG=2 THEN GOTO 570
420 GOSUB 470
430 PRINT#F1,BL$;PRINT#F1+32,BL$;
440 F1=F1+M;
450 GOSUB 90
460 GOTO 360
470 M=RND(6)
480 PRINT#77,M;
490 P$=INKEY$:IF P$=CHR$(32) THEN 510
500 IF P$(<)CHR$(32) THEN 470
510 RETURN
520 PRINT#162,"FROG ONE WINS";
530 GOTO 810
540 ' PAYERS 1 OR 2
550 PRINT#90,"ONE";
560 GOTO 420
570 PRINT#90,"TWO";
580 IF COMPUTER=1 THEN 710
590 GOSUB 470
600 PRINT#F2,BL$;PRINT#F2+32,BL$;
610 F2=F2+M
620 PRINT#F2,F$;PRINT#F2+32,R$;
630 IF F2=>381 THEN PRINT#360,"FROG TWO WINS";GOTO 810
640 FLAG=0
650 GOSUB 90
660 GOTO 360
670 FOR X=0 TO 63
680 PRINT#X,CHR$(128);
690 NEXT
700 RETURN
710 FOR ML=1 TO 50
720 M=RND(6):PRINT#77,M;
730 NEXT ML
740 GOTO 600
750 CLS:PRINT"DO YOU WISH TO PLAY AGAIN"
AUSTRIAN CoCo

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```

Y THE"
760 PRINT"COMPUTER OR ANOTHER PLAYER"
770 PRINT" (1) = COMPUTER
780 PRINT" (2) = 2ND PLAYER
790 INPUT"ENTER CHOICE";COMPUTER
800 RETURN
810 PRINT#480,"PLAY AGAIN y = YES";
820 INPUT")";Y$
830 IF Y$="Y" THEN RUN 70
840 CLS8:PRINT#200,"PLAY ANOTHER TIME";
850 PRINT#480,"":END
860 CLS
870 PRINT TAB(11)"FROG RACE"
880 FOR X=1 TO 32:PRINTCHR$(156)
890 NEXT
900 PRINT"TWO FROGS LINE UP FOR THE BIG":PRINT"HOP RACE.THE FIRST TO REACH THE"
910 PRINT"YELLOW LINE WINS.EACH FROG WILL":PRINT"ADVANCE TO THE NUMBER YOU STOP"
920 PRINT"THE DIE ROLL BY PRESSING THE":PRINT"SPACE BAR.PLAY THE N IS PASSED TO";
930 PRINT"THE NEXT PLAYER.WHO'S TURN IS":PRINT"DISPLAYED AS FROG 1 OR 2.YOU CAN";
940 PRINT"PLAY THE COMPUTER OR ANOTHER":PRINT"PERSON.PLAYING THE COMPUTER IT"
950 PRINT"TAKES FROG 2 AND AUTOMATICALLY":PRINT"STOPS THE DIE FOR ITS MOVE."
960 PRINT"THE COMPUTER DECIDES WHO ROLLS"
970 PRINT"FIRST.(PRESS ENTER TO START";
980 INPUTZ$
990 RETURN

```

CoCo

KIMMAT was written to suit many of the Color Basic Computers now being sold and uses 3177 bytes of memory which makes it suitable for COLOR BASIC, MC10 with memory expansion and EXT. COLOR BASIC. The program displays animated card dealing and has user friendly error traps for wrong entry at the betting input.

# KIMMAT

by Tom Lehane

The management of 'BIG LOUIE'S' gambling casino welcome you with your bag of \$1000.

Please be seated at the card table for a game of KIMMAT.

All cards rank in normal order with the ACE being high card. CoCo will deal three cards, two of the three show their face value and the third card is dealt face down. This is where you reach into your money bag and place a bet (no smaller than \$5.00) that the card is lower than the other two.

If you choose to pass because of an unfavourable hand press ENTER, but house rules state that a pass costs the player \$1.00.

Other house rules are: No I.O.U's. - you can only bet to the size of your bank.

The house limit is \$10,000.

The management closes the playing tables on or after the limit has been reached.



```

10 CLS 6
20 GOSUB 860
30 GOTO 1290
40 GOTO 60
50 FOR X=1 TO 1000:NEXT:RETURN
60 BANK=1000
70 HOUSE=10000
80 CLS0
90 B#=CHR$(128)
100 C#=CHR$(246)
110 DC#=C#+C#+C#
120 CARD=0
130 PRINT#35,DC#;:PRINT#67,DC#;:

```

```

166 DRAW"C0":A=5:B=130:W#="IF YO
U REACH MY INNER CHAMBER..":GOSU
B37:FORT=1T05:PSET(X,Y):X=X+1:GO
SUB173:NEXT:FORT=1T020:PSET(X,Y)
:Y=Y-1:GOSUB173:NEXT:FORT=1T020:
CIRCLE(220,167),2,5:CIRCLE(220,1
67),2,0:NEXT
167 DRAW"C5":LINE(0,110)-(256,14
0),PSET,BF:DRAW"C0":A=5:B=120:W#
="YOU HAVE GO OUT THE WAY YOU":G
OSUB37:A=5:B=130:W#="CAME IN WHI
LE AVOIDING MY":GOSUB37:DRAW"C0"
:A=5:B=140:W#="SPIDERS.....!":G
OSUB37
168 A#="0":FORT=1T03000:NEXT:PCL
S:A=5:B=20:W#="SOME OF MY DOORS
YOU CAN PASS":DRAW"C5":GOSUB37:A
=5:B=30:W#="THROUGH BUT YOU CANT
TELL TILL":GOSUB37:A=5:B=40:W#="
YOU TRY...ALSO I CAN AT TIMES":
GOSUB37:A=5:B=50:W#="EFFECT YOUR
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```

```

SHIPS HANDLING":GOSUB37
169 FORT=1T03000:NEXT:A=5:B=100:
W#="SO GET ABOARD YOUR PUNY LITT
LE":GOSUB37:A=5:B=110:W#="SHIP A
ND TEST THE FURY OF NARZOD":GOSU
B37:PCLS:FORT=1T040:PUT(5,80)-(5
0,45-T),A,PSET:NEXT:A#="N":A=5:B
=80:W#="PRESS ANY KEY..KNAVE.!":
GOSUB37:EXEC44539:RETURN
170 GOTO170
171 FORT=1T03000:NEXT:PCOPY4T03:
RETURN
172 FORT=1T01000:NEXT:RETURN
173 FORD=1T0100:NEXT:RETURN
174 LINE(55,20)-(200,30),PSET,BF
:LINE(60,25)-(190,25),PRESET:CIR
CLE(190,25),8,0:PAINT(190,22),0,
0:LINE(55,20)-(200,30),PRESET,B:
LINE(60,5)-(195,15),PRESET,BF:A=
70:B=14:W#="TIME BOMB FUSE":GOSU
B37:PCOPY1T05:RETURN
AUSTRALIAN CoCo

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```

175 GOSUB61:FU=1:A=10:B=188:W#="
YOUR FUSE IS BURNING.":GOSUB37:G
OSUB172:GOSUB61:PMODE4,5:PUT(194
,144)-(250,190),R,PSET:EX=216:GO
T0105
176 PMODE4,5:SCREEN1,1:GOTO176
177 X=15:Y=15:POKE178,3:PMODE4:5
CREEN1,1:PCLS
178 PUT(120,70)-(165,110),A,PSET
:
179 EXEC32126:OP=OP+1:IFOP(40)THE
N180
180 FORK=1T050:PLAY"T200;3":SCRE
EN1,1:POKE65314,RND(255):FORT=1T
050:NEXT:POKE65314,RND(255):FORT
=1T050:NEXT:NEXT:GOSUB29:GOTO158
200 'THE CAVERNS OF NARZOD.
201 'BY MAX BETTRIDGE
202 '1985..048839203.

```

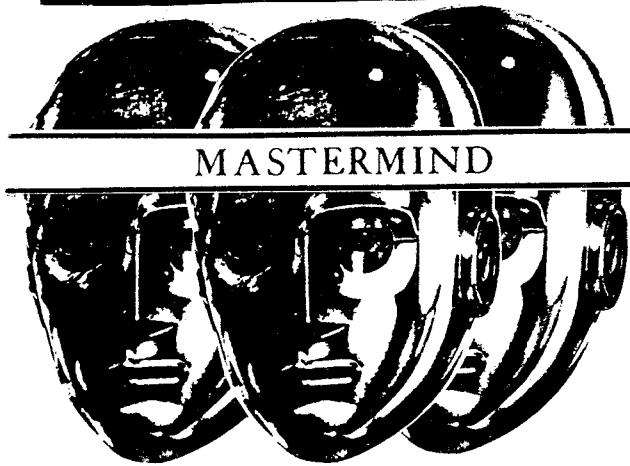
CoCo.

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```

PRINT299,DC$;
140 CARD=CARD+1
150 SH=0
160 IF BANK > HOUSE THEN GOSUB 8
60:GOTO 1250
170 GOSUB 50
180 FOR DEAL=38 TO 46
190 PRINT2DEAL,B$+DC$;:PRINT2DEA
L+32,B$+DC$;:PRINT2DEAL+64,B$+DC
$;
200 GOSUB 740
210 NEXT DEAL
220 SOUND 100,1:SOUND200,2
230 FOR X=15 TO 367 STEP 32
240 PRINT2X,B$+B$+B$;
250 PRINT2X+32,DC$;:PRINT2X+64,D
C$;:PRINT2X+96,DC$;
260 GOSUB 740
270 NEXT X
280 IF CARD=1 THEN 310
290 IF CARD=2 THEN350
300 IF CARD=3 THEN 450
310 FOR X=399 TO 387 STEP-1
320 PRINT2X,DC$+B$;:PRINT2X+32,D
C$+B$;:PRINT2X+64,DC$+B$;
330 NEXT X
340 GOTO 590
350 FOR X=399 TO 409
360 PRINT2X,B$+DC$;:PRINT2X+32,B
$+DC$;:PRINT2X+64,B$+DC$;
370 NEXT X
380 SH=410
390 R=RND(13)+1
400 IF R=10 THEN GOTO 700
410 FOR M=1 TO R
420 READ X
430 NEXT M
440 GOTO 650
450 C=RND(13)+1
460 FOR K=1 TO C
470 READ B
480 NEXT K
490 GOSUB 860:GOSUB 800
500 IF C=10 THEN 550
510 PRINT2399,CHR$(B)" ";
520 PRINT2431," ";
530 PRINT2463," "CHR$(B);
540 GOTO 580
550 PRINT2399,"10 ";
560 PRINT2431," ";
570 PRINT2463," 10";
580 GOTO 920
590 SH=387
600 L=RND(13)+1
610 IF L=10 THEN GOTO 700
620 FOR Z=1 TO L
630 READ X
640 NEXT Z
650 PRINT2SH,CHR$(X)" ";
660 PRINT2SH+32," ";
670 PRINT2SH+64," "CHR$(X);
680 RESTORE
690 GOTO 140
700 PRINT2SH,"10 ";
710 PRINT2SH+32," ";
720 PRINT2SH+64," 10";
730 GOTO 140
740 FOR TL=1 TO 10:NEXT TL
750 RETURN
770 DATA 0,50,51,52,53
780 DATA 54,55,56,57,0,74
790 DATA 75,81,65
800 PRINT2160," YOUR ACCOUNT STA
NDS AT $";BANK
810 PRINT:INPUT"HOW MUCH DO YOU
BET $";CASH
820 IF CASH=0 THEN GOSUB 1070
830 IF CASH > BANK THEN 1200
840 IF CASH < 5 THEN GOTO 1170
850 RETURN
860 PRINT2160,"
870 FOR X=1 TO 4
880 PRINT
890 SOUND200,1
900 NEXT X
910 RETURN
920 IF C<L AND C<R THEN 990
930 IF C<L AND R=C THEN 990
940 IF C<R AND C=L THEN 990
950 IF C<L OR C>R THEN 960
960 GOSUB 860:PRINT2163,"*****
<YOU LOSE> *****":GOSUB 1050
970 GOTO 1000
980 GOSUB 860
990 GOSUB 860:PRINT2167," ## YOU
WIN ##":GOSUB 1060
1000 PRINT" YOUR BANK IS ..$"BAN
K
1010 IF BANK=0 THEN GOSUB 50:GOT
O1120
1020 PRINT"PRESS ENTER TO DEAL A
GAIN ";:INPUT D
1030 RESTORE
1040 GOTO 80
1050 BANK=BANK-CASH:RETURN
1060 BANK=BANK+CASH:RETURN
1070 BANK=BANK-1
1080 GOSUB 860
1090 PRINT2160," HOUSE TAKES $1.
00 FOR A PASS"
1100 PRINT:PRINT"YOUR BANK IS ..
$";BANK
1110 GOTO 1010
1120 CLS 8:PRINT2160,"
1130 PRINT" YOU ARE BANKRUPT..."
1140 PRINT" CALL AGAIN, I LIKE T
HE FEEL "
1150 PRINT" OF CASH IN MY MEMORY
BANK"
1160 END
1170 GOSUB 860
1180 PRINT2160," THE SMALLEST AM
OUNT YOU"
1190 PRINT"CAN BET IS $5.00"
1200 FOR DL=1 TO 3
1210 FOR X=1 TO 96
1220 PRINT2X+223,CHR$(140+DL);:N
EXT
1230 NEXT
1240 GOTO 800
1250 PRINT2160," YOU HAVE BROKEN
THE":PRINT"HOUSE LIMIT... THIS
TABLE"
1260 PRINT" IS CLOSED...THE MANA
GEMENT"
1270 PRINT"YOU HAVE WON..$"BANK
1280 GOTO 1280
1290 PRINT244,"KINMAT";
1300 PRINT2356,CHR$(210)+CHR$(21
5);
1310 PRINT2389,CHR$(212);
1320 PRINT2391,"PROGRAM BY TOM L
EHANE";
1330 PRINT2167,"...DO YOU NEED..
."
1340 PRINT2230,"--- INSTRUCTIONS
---"
1350 PRINT
1360 PRINT" <Y = YES> OR ENTER T
O PLAY"
1370 Q$=INKEY$:2=RND(0)
1380 IF Q$="Y" THEN 1410
1390 IF Q$="" THEN 1370
1400 GOTO 40
1410 CLS
1420 PRINT212,"Kinmat":FORX=1TO3
2:PRINTCHR$(131);:NEXT
1430 PRINT"THE COMPUTER DEALS TH
REE CARDS,":PRINT"TWO CARDS ARE
SHOWN,"
1440 PRINT"BEFORE THIRD CARD IS
SHOWN YOU":PRINT"HAVE TO BET TH
AT THE CENTRE"
1450 PRINT"CARD IS SMALLER THAN
THE OTHER ";:PRINT"TWO OUTSIDE
CARDS.BANK STARTS AT";
1460 PRINT"$1000.SMALLEST AMOUNT
TO BET IS":PRINT"$5.IF YOU PASS
THE HOUSE TAKES"
1470 PRINT"$1. HOUSE LIMIT IS $
10,000.ALL":PRINT"BETTING STOPS
AFTER LIMIT IS"
1480 PRINT"REACHED.":PRINT"ace R
ANKS HIGH CARD."
1490 PRINT" PASS = ENTER"
1500 PRINT2484,"PRESS ENTER TO C
ONTINUE";:INPUTZZ$
1510 GOTO 40

```



THE LISTING: by M. Robinson

```

0 '*****
1 '*****MASTERMIND*****
2 '*****
3 '****BY: MICHAEL ROBINSON****
4 '**** 52 BARTER CRESCENT ****
5 '**** FOREST HILL, 3131. ****
6 '****      VICTORIA      ****
7 '*****
10 POKE65495,0:CC=RND(-TIMER):SC
REEN0,0:GOSUB500:'TITLE PAGE
15 POKE359,13:SCREEN0,1:GOSUB550
:'LEVEL
20 GOSUB600:'INSTRUCTIONS
30 CLS0:Y=0:RESTORE:ZZ=0
40 FORN=2TO10STEP2:R(N)=RND(8)-1
:NEXTN:'SET UP CODE
50 FORX=32TO256STEP32:PRINT@X,CH
R$(132+Y);:Y=Y+16:NEXTX
70 PRINT@34,"0=GREEN ";:PRINT@6
6,"1=YELLOW ";:PRINT@98,"2=BLUE
";:PRINT@130,"3=RED ";:PRIN
T@162,"4=BUFF ";:PRINT@194,"5=
CYAN ";:PRINT@226,"6=MAGENTA";
:PRINT@258,"7=ORANGE ";
75 PRINT@320,"+=CORRECT ";:PRIN
T@352," COLOR ";:PRINT@384,"
X=CORRECT ";:PRINT@416," POSIT
ION ";
80 FORX=1150TO1439STEP32:READT:P
OKEX,T:NEXTX
90 DATA77,65,83,84,69,82,77,73,7
8,68
100 V=RND(8):V=128+16*(V-1)+9:FO
RX=1053TO1535STEP32:POKEX,V:POKE
X+2,V:NEXTX:POKE1054,V:POKE1086,
V:POKE1118,V:POKE1470,V:POKE1502
,V:POKE1534,V
105 IF L=1 THEN PRINT@1,"hard le
vel"; ELSE PRINT@1,"easy level";
110 POKE1029,128:X=12
120 T=0:Q=0:A=2
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```

This program plays MASTERMIND on two levels. On the easy level the column that the clue is in corresponds to the column of the guess. On the hard level the two columns don't correspond.

Complete instructions are included in the program. This program can be typed in with all remarks (REM's) left out if required and no UL ERRORS will occur. The high speed poke is used in line 10 and can be deleted if necessary. On replying NO to the game prompt the computer is returned to the normal speed mode.

This program was written on a 64K ECB CoCo. It will run as is on CoCo's with only Color Basic.

The program requires 5.7K but if lines 20 and 600-699 are deleted the program requires only 3.6K and should run on a 4K Color Basic CoCo. In doing this the instructions are foregone.

I hope you enjoy MASTERMIND.

```

130 PRINT@489," ";:PRINT@480,"
GUESS"ZZ+1;
140 PRINT@X,CHR$(134);:A$=INKEY$
:PRINT@X,CHR$(134);:PRINT@X,CHR$
(137);:'FLASHING CURSOR
150 IF A$="" THEN140
160 IF A$="0" OR A$="1" OR A$="2
" OR A$="3" OR A$="4" OR A$="5"
OR A$="6" OR A$="7" THEN 180 ELS
E IF A$=CHR$(8) THEN 170 ELSE SO
UND5,1:GOTO140
170 IF X=12+32*ZZ THEN 140 ELSE
PRINT@X,CHR$(128);:X=X-2:T=T-1:A
=A-2:SOUND180,1:GOTO140
180 SOUND170,1:PRINT@X,CHR$(131+
(VAL(A$)*16));
190 X=X+2:T=T+1:GOSUB220
200 IF T=5 THEN 260
210 GOTO140
220 IF VAL(A$)=R(A) THEN D(A)=1:
GOTO250
230 FORY=2TO10STEP2:IF VAL(A$)=R
(Y) THEN D(A)=2:GOTO250
240 NEXTY:D(A)=0
250 A=A+2:RETURN
260 X=X-1
265 ON L GOSUB270,350:GOTO400
270 Q=0:I=0:M=0
280 FORP=2TO10STEP2:X=X+2
290 IF D(P)=1 THEN Q=Q+1
300 IF D(P)=2 THEN I=I+1
310 IF D(P)=0 THEN M=M+1
320 NEXTP
330 X=X-8:PRINT@X,STRING$(Q,"X")
;:PRINT@(X+Q),STRING$(I,"+");:PR
INT@(X+I+Q),STRING$(M," ");:X=X+
8:RETURN
350 X=X+2:FORP=2TO10STEP2
360 IF D(P)=1 THEN PRINT@X,"X";:
Q=Q+1
370 IF D(P)=2 THEN PRINT@X,"+";
380 IF D(P)=0 THEN PRINT@X," ";
385 X=X+1

```

```

390 NEXTP:X=X+3:RETURN
400 IF Q=5 THEN425
410 ZZ=ZZ+1:IF ZZ=16 THEN460
420 X=X+13:GOTO120
425 FORB=1TO8:V=128+16*(B-1)+9:F
ORX=1053TO1535STEP32:POKEX,V:POK
EX+2,V:NEXTX:POKE1054,V:POKE1086
,V:POKE1118,V:POKE1470,V:POKE150
2,V:POKE1534,V:FORX=0TO100:NEXTX
:SCREEN0,0:FORX=0TO100:NEXTX:SOU
ND200,1:SOUND100,1:SCREEN0,1:NEX
TB
430 FORX=100TO180STEP5:SOUNDX,1:
NEXTX
440 CLS0:Y=107:FORX=2TO10STEP2:P
RINT@Y,CHR$(143+(R(X)*16));:Y=Y+
2:NEXTX:FORX=192TO479:PRINT@X,CH
R$(175);:NEXTX
450 PRINT@227,"YOU HAVE CRACKED
THE CODE";:PRINT@263,"YOU TOOK"Z
Z+1"GUESSES";:IF L=1 THEN PRINT@
296,"ON THE HARD LEVEL"; ELSE PR
INT@295,"ON THE EASY LEVEL.":;GO
TO800
460 FORX=0TO1500:NEXTX:FORX=200T
0100STEP-5:SOUNDX,1:NEXTX
470 CLS0:Y=107:FORX=2TO10STEP2:P
RINT@Y,CHR$(143+(R(X)*16));:Y=Y+
2:NEXTX
480 PRINT@66,"YOU FAILED TO CRAC
K THE CODE";:PRINT@133,"BETTER L
UCK NEXT TIME";:FORX=192TO319:PR
INT@X,CHR$(246);:NEXT:GOTO800
490 '*****
      END OF MAIN ROUTINES
      START OF SUBROUTINES
      *****
499 '***TITLE PAGE***
500 V=198:GOSUB1000
505 Y=0:FORX=36TO260STEP32:PRINT
@X,CHR$(143+Y);:PRINT@X+23,CHR$(
143+Y);:PRINT@X+2,CHR$(143+Y);:P
RINT@X+21,CHR$(143+Y);:Y=Y+16:NE
XTX
510 PRINT@74,"*MASTERMIND*";:PRI
NT@173,"A GAME";:PRINT@239,"OF";
:PRINT@298,"CHALLENGE !!";:PRINT
@390,"BY MICHAEL ROBINSON";
511 Y=0
512 FORJ=0TO19:POKE1381+J,143+Y:
POKE1445+J,Y+143:Y=Y+16:IF Y<>12
8 THEN NEXTJ ELSE Y=0:NEXTJ
515 FORX=0TO4000:NEXTX:RETURN
549 '***ENTER LEVEL***
550 A$=INKEY$:V=230:GOSUB1000:PR
INT@101,"WELCOME TO MASTERMIND";
:PRINT@167,"PLEASE ENTER LEVEL";
:PRINT@204,"<1>=HARD";:PRINT@236
,"<2>=EASY";
560 A$=INKEY$:IF A$="" THEN560

```

October, 1985

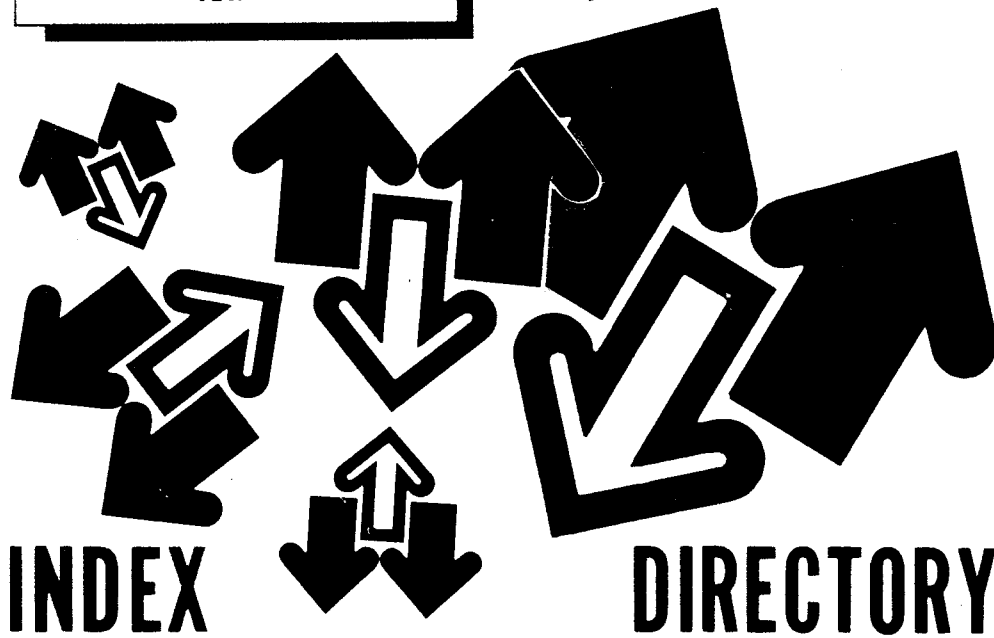
AUSTRALIAN CoCo

```

570 IF A$="1" OR A$="2" THEN580
ELSE 560
580 L=VAL(A$):RETURN
599 '***INSTRUCTIONS***
600 V=134:GOSUB1000:PRINT@74,"in
structions";:PRINT@132,"THE COMP
UTER WILL SELECT";:PRINT@164,"A
FIVE COLORED CODE.":;PRINT@228,"
THE OBJECT IS TO GUESS";:PRINT@2
60,"THIS CODE.":;PRINT@324,"YOU
HAVE SIXTEEN GUESSES.";
610 PRINT@388,"YOU ARE PLAYING O
N THE";:IF L=1 THEN PRINT@426,"H
ARD LEVEL"; ELSE PRINT@426,"EASY
LEVEL";
620 A=68:K=89:GOSUB700
625 V=153:GOSUB1000:PRINT@74,"in
structions";:PRINT@132,"YOU ENTE
R YOUR GUESS ONE";:PRINT@164,"CO
LOR AT A TIME USING";:PRINT@196,
"THE APPROPRIATE COLOR";:PRINT@2
28,"CODE. THE COLOR CODE IS";:PR
INT@260,"DISPLAYED ON THE GAME";
628 PRINT@292,"SCREEN.":;PRINT@3
56,"YOU CAN CORRECT A WRONG";:PR
INT@388,"INPUT BY USING THE LEFT
";:PRINT@420,"ARROW KEY TO BACKS
PACE.":;A=68:K=89:GOSUB700
630 ON L GOSUB 640,660:RETURN
639 '***HARD LEVEL INSTRUCTIONS**
640 V=214:GOSUB1000:PRINT@74,"in
structions";:PRINT@130,"ON THE H
ARD LEVEL CLUES ARE";:PRINT@162,
"GIVEN AS FOLLOWS";:PRINT@226,"E
ACH X MEANS THAT ONE OF THE";:PR
INT@258,"COLORS IN YOUR GUESS IS
THE";
645 PRINT@290,"SAME AS THE SECRE
T CODE AND";:PRINT@322,"IS IN TH
E CORRECT POSITION.":;PRINT@386,
"A + MEANS THAT A COLOR IS";:PRI
NT@418,"THE SAME AS ONE IN THE";
:A=68:K=89:GOSUB700
650 V=214:GOSUB1000:PRINT@67,"SE
CRET CODE BUT IS IN THE";:PRINT@
99,"INCORRECT POSITION.":;PRINT@
163,"A SPACE IS LEFT FOR EVERY";
:PRINT@195,"COLOR GUESSED THAT I
S NOT";:PRINT@227,"INCLUDED IN T
HE CODE.";
655 PRINT@296,"***GOOD LUCK***";
:A=363:K=369:GOSUB700:RETURN
659 '***EASY LEVEL INSTRUCTIONS**
660 V=185:GOSUB1000:PRINT@74,"in
structions";:PRINT@131,"ON THE E
ASY LEVEL CLUES ARE";:PRINT@163,
"GIVEN AS FOLLOWS.":;PRINT@227,"
A X MEANS A CORRECT COLOR";:PRIN
T@259,"IN THE CORRECT POSITION."
;

```

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INDEX is a 16K disk utility. The program came from a similar program I saw at school on the APPLE. After RUNNING there will be a pause as filenames are loaded into strings in memory. This occurs in lines 120-230. Filenames and extensions are displayed on screen with a corresponding letter. Twenty-six filenames can be printed on screen at one time. There is one hidden command, this the spacebar, pressing it will move to the next page. I have included only two pages although there is only 52

filenames in all and not enough room for a full disk of 68 programs.

Apart from the spacebar command, there are those that run along the bottom of the screen, they are:  
 TYPE LETTER AND RUN - typing any letter corresponding to the name of the program you want will run that program.  
 LOAD - type 1 and you will be asked to press a letter corresponding to the program you want to load.  
 DELETE type 2 and you will be asked which program you want

deleted, although this time the word delete flashes and a warning beep is sounded so you don't accidentally delete a wanted program.

RENAME - If 3 is typed you are placed into the rename routine. The name of the program you require renaming is requested, then you are asked to type a new name. NOTE: you do not need to type in the extension, it will automatically be placed.  
 EXIT - exits the program.

Of course as with most good things there are drawbacks. Firstly INDEX is fine for loading and running basic programs but with some M/L programs it hangs up after loading or gives an error (99% of the time this can be ignored). A bit of a puzzle, maybe someone might suggest a solution.

DIRECTORY, a clone of INDEX, is for those don't want INDEX but would like 26 filenames on the screen at once. Actually this program allows 28 as I'm not limited by the 26 letters of the alphabet. Again only two pages and switching using the spacebar. When typing play it safe and type in REM lines as in some places I've used them with GOSUB's or GOTO's.

```
670 PRINT@323,"A + MEANS A CORRE
CT COLOR";:PRINT@355,"IN THE WRO
NG POSITION.";:PRINT@419,"A SPAC
E MEANS THAT THIS";:PRINT@451,"C
OLOR IS NOT INCLUDED IN";:A=68:K
=89:GOSUB700
680 V=185:GOSUB1000:PRINT@68,"TH
E CODE AT ALL.";:PRINT@132,"THE
COLUMN THAT THE CLUE";:PRINT@164
,"IS IN CORRESPONDS TO THE";:PRI
NT@196,"COLOR IN THE SAME COLUMN
";:PRINT@228,"OF THE GUESS.";
690 PRINT@296,"***GOOD LUCK***";
:A=363:K=369:GOSUB700:RETURN
699 /***FLASHING "ANY KEY" PROMP
T***
```

```
700 PRINT@A,"ANY";:PRINT@K,"KEY"
;:FORX=0T0300:NEXTX:PRINT@A,"any
```

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```
";:PRINT@K,"key";:FORX=0T0300:NE
XTX:A#=INKEY#:IF A#="" THEN700 E
LSE SOUND150,1:RETURN
799 /***ANOTHER GAME***
800 A#=INKEY#:PRINT@360,"ANOTHER
GAME?";:PRINT@390," ENTER YES
OR NO. ";
805 A#=INKEY#:IFA#="" THEN805
810 IF A#="Y" THEN GOTO30 ELSE C
LS:SCREEN0,0:POKE65494,0:END
999 /***BORDER***
1000 CLS:FORX=1024T01055:POKEX,V
:NEXTX:FORX=1056T01503STEP32:POK
EX,V:POKEX+31,V:NEXTX:FORX=1504T
01535:POKEX,V:NEXTX:RETURN
```

AUSTRALIAN CoCo

October, 1985



## LISTING 1:

```

1 /'*****INDEX*****
2 GOTO10
3 SAVE"INDEX":DIR:END
10 /'*****INDEX*****
20 /*          INDEX          *
30 /*          *
40 /*          BY          *
50 /*          *
60 /*          GAVIN UNSWORTH *
70 /*21 EMERALD ST BRASSALL QLD*
80 /*          4305          *
90 /'*****INDEX*****
100 POKE6000,0:CLS
110 /get filenames routine
120 CLEAR2000
130 DIM A$(68)
140 FOR X=3TO11
150 DSKI$ Z,17,X,A$,B$:C$=A$+LEF
T$(B$,120)
160 FOR N=0TO7
170 A$(Y)=MID$(C$,N*32+1,8)+" "+
MID$(C$,N*32+9,3)
180 R=ASC(A$(Y)):IF R=255THEN A$
(Y)="" :GOTO230
190 IF R=0THEN A$(Y)="" :GOTO210
200 Y=Y+1
210 NEXT N,X
220 POKE65344,0
230 GOSUB310
240 /print filenames routine
250 H=32:K=65:IF Y>26 THEN POKE6
000,Y:IF Y>26 THEN FORT=0TO25
260 IF Y<26 THEN FOR T=0 TO Y-1
270 PRINT@H,"["CHR$(T+K)"]" A$(T)
;
280 H=H+32:IF H=448 THEN H=49
290 NEXTT
300 GOTO410
310 /print free grans routine
320 PRINT@0,"free"+CHR$(128)+"gr
anules:"FREE(0)
330 POKE 65344,0:RETURN
340 /move to next page routine
350 J=PEEK(6000):IFJ>26 THEN 370
ELSE RETURN
360 H=32:K=39:CLS:GOSUB 310:FORT
=26TOJ-1:GOTO270
370 IF K=39 THEN 390 ELSE 360
380 /go back one page if needed.
390 CLS:GOSUB310:GOTO250
400 /runner routine
410 C$="TYPE LETTER TO RUN, OR 1
=LOAD, 2=DELETE, 3=RENAME, 4=EXI
T..."
420 B$=INKEY$
430 PRINT@481, LEFT$(C$,30);:C$=
MID$(C$,2)+LEFT$(C$,1):IF B$(">)"
THEN 440 ELSE FOR T=1TO60:NEXTT
:GOTO420
440 /branching here
450 S=ASC(B$):IF S>64 AND S<91 T
HEN 510
460 IF B$="1" THEN 560
470 IF B$="2" THEN 630
480 IF B$="3" THEN 680
490 IF B$="4" THEN CLS:END
500 IF B$=CHR$(32) THEN 760 ELSE
GOTO420
510 /run routine
520 M$=B$:GOSUB 790
530 IF MID$(NAM$,10,3)="BIN"THEN
550 ELSE IF MID$(NAM$,10,3)="BA
S" THEN 540
540 GOSUB830:PRINT@480,"RUN "NAM
$;:LOAD NAM$,R
550 GOSUB830:PRINT@480,"RUNM "NA
M$;:RUNM NAM$
560 /load routine
570 PRINT@480,"TYPE ANY LETTER Y
OU WISH TO LOA";:POKE1535,68
580 M$=INKEY$:IF M$=""THEN 580 E
LSE 590
590 GOSUB 800
600 IF MID$(NAM$,10,3)="BIN" THE
N 610 ELSE IF MID$(NAM$,10,3)="B
AS" THEN 620
610 GOSUB830:POKE1535,96:PRINT@4
80,"LOADM "NAM$;:LOADM NAM$:NEW
620 GOSUB830:POKE1535,96:PRINT@4
80,"LOAD "NAM$;:LOAD NAM$
630 /delete routine
640 PRINT@480,"TYPE LETTER YOU W
ISH TO DELETE ";:GOSUB840
650 M$=INKEY$:IF M$=""THEN RETUR
N ELSE GOSUB 790
660 GOSUB830:PRINT@480,"KILL "NA
M$;:KILL NAM$
670 GOSUB830:GOTO100
680 /rename routine
690 PRINT@480,"TYPE LETTER YOU W
ISH TO RENAME ";
700 M$=INKEY$:IF M$=""THEN 700 E
LSE 710
710 GOSUB 790
720 GOSUB830:PRINT@480,"RENAME "
NAM$" TO ";:LINE INPUT MAN$
730 MAN$=MAN$+"/" +MID$(NAM$,10,3
)
740 RENAME NAM$ TO MAN$
750 GOSUB830:GOTO100
760 /move next page
770 GOSUB350
780 GOTO 420
790 /match filename routine
800 M=ASC(M$):IF K=65 THEN M=M-6
5 ELSE IF K=39 THEN M=M-39
810 NAM$=LEFT$(A$(M),8)+"/" +MID$
(A$(M),10,3)

```

# DATABASES & GRAPHICS

by Geoff Tolputt

So you are wondering what databases are all about, may I offer a few comments. All my experience is home grown so don't think I'm not talking to you as a new COCO user. Most of the following are MY opinions and not FACTS in the strict sense of the word, so take them as that and use your own think tank as the final authority.

What can you use Databases to do more efficiently than by manual means. Remember that with a DB, (strictly speaking we should call it a data manager) after you have entered the information you always have it to use, manipulate etc, no need to retype the entire list just because three items have changed. Here is a short list of already established DBs I know of, Accounting Packages, Address lists, Machinery Service REcords, Checkbook, Club Membership List, Vehicle costs pre KM, Geneology, Inventory, Invoicing, Sales records, Tax expenses, and lists of virtually anything. My most extensive DB is an index of Aust Rainbow since JAN 1982, with it I can tell you the month and page number of every article about Fantasy Role Playing Games or find those on the graphics command - PUT, or any one of dozens of choices.

Anyway down to business, you don't have to spend large amounts of money to get into DBs, many complete systems have been listed in Rainbow and Coko. My first bought DB cost only \$10 and taught me a lot, the experience gained was worth far more than the dollars cost of it.

If you really want to use DBs extensively then some money is required, if only for Assembly Language sort routines, but don't believe the entire program has to be Assembly, actually I prefer BASIC because I can modify it to suit my personal preference for operation, and I have done that with virtually every BASIC program I use.

That leads me to say, have a look around to see which DB others are using and the success they are having in getting it to do what they want, how they want it to do it. I've started a group in Australia to link up users so we don't all go about reinventing the round wheel.

When buying have a think of the following:

- will it use all of your RAM?
- can it use the top 32K for itself or a SPOOLER,
- does it support tape and disk?
- with disks, how many drives are really needed to function efficiently?
- does it allow the full use of printer functions via software control codes?
- how fast are the sort, search and printout routines, nothing like having to wait 40 minutes every time you want to sort it!
- can you modify the format after you have entered data or must you reenter all the data?
- can it 'talk' to other DBs, word processors and spreadsheets or basic programs you have written yourself eg graphing?

```
820 RETURN
830 PRINT@480,STRING$(31," ");:R
ETURN
840 PRINT@504,"DELETE";:GOSUB650
:GOSUB 850:PRINT@504,"delete";:S
OUND50,1:GOSUB 650:GOSUB850:GOTO
840
850 FORX=1TO100:NEXTX:RETURN
```

## LISTING 2:

```
1 '*****DIRECTORY*****
2 GOTO10
3 SAVE"DIR":DIR:END
10 CLS
20 POKE6000,0
30 'get filenames routine
40 CLEAR2000
50 DIM A$(68)
60 FOR X=3TO11
70 DSKI$(2,17,X,A$,B$:C#=A#+LEFT
$(B$,120)
80 FOR N=0TO7
90 A$(Y)=MID$(C$,N*32+1,8)+" "+M
ID$(C$,N*32+9,3)
100 R=ASC(A$(Y)):IF R=255THEN A$
(Y)="" :GOTO150
110 IF R=0THEN A$(Y)="" :GOTO130
120 Y=Y+1
130 NEXT N,X
140 POKE65344,0
150 GOSUB230
160 'print filenames routine
170 H=32:K=65:IF Y>26 THEN POKE6
000,Y:IF Y>26 THEN FORT=0TO27
180 IF Y<26 THEN FOR T=0 TO Y-1
190 PRINT@H,A$(T);
200 H=H+32:IF H=(448+32) THEN H=
52
210 NEXTT
220 GOTO330
230 'print free grans routine
240 PRINT@0,"free"+CHR$(128)+"gr
anules:"FREE(0)
250 POKE 65344,0:RETURN
260 'move to next page routine
270 J=PEEK(6000):IFJ>26 THEN 290
ELSE RETURN
280 H=32:K=39:CLS:GOSUB 230:FORT
=28TOJ-1:GOTO190
290 IF K=39 THEN 310 ELSE 280
300 'go back one page if nessec.
310 CLS:GOSUB230:GOTO170
320 'check
330 PRINT@480," USE <SPACEBAR> T
O SWITCH PAGES";
340 A$=INKEY$:IF A$=CHR$(32) THE
N GOSUB260 ELSE 340
350 'move next page
360 GOSUB270
370 GOTO 340
```

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AUSTRALIAN CoCo

October, 1985

can you convert over from a DB you are already using?  
(This is something which has saved hours of retyping.)

Personally I believe DB to be the best thing since sliced bread with jam and peanut paste but maybe you prefer good old fashioned vegemite.

There are a lot of Aussie users doing great things with graphics in terms of screen pictures. I would like to get all of these people together thru the use of a bi-monthly tape based newsletter.

I propose that screens be sent to me, on tape or disk (tape is the cheapest and safest) in binary, graphicom or Coconax format. I will publish them for a cover costs fee of \$5 per issue on tape, approx 20 screens per issue. (If you really want it on disk then that can be arranged at extra cost)

It's success will depend on you people sending in the screens. I know that literally hundreds of different screens exist and many are real works of art. I also envisage a short info program to keep people in touch with what's happening in the way of new programs, reviews and where they are available and even listings of short graphics hints and utilities if they are sent in.

Any comments or screens please write to  
GRAPHICS GALORE  
c/- Geoff TOLPUTT  
P.O. Box 170  
ST LUCIA. Qld. 4067.

mention the reduction in execution time of the program. Graphics programmers should note the formula for calculating the size of a single-dimension array for use with GET-PUT operations, (see DIM notes). This formula is often slightly incorrect in some magazine articles, but the correct formula is shown here.



- CHR#:** If using a particular character many times, define the character as a string when required.  
e.g. A\$=CHR\$(34):PRINTA\$.
- CIRCLE:** If using more than one circle of the same colour in a graphics sequence, specify the colour of the circles before drawing.  
e.g. COLOR2:CIRCLE(50,50),10:CIRCLE(90,90),10.
- CLS:** Do not use parentheses to specify the colour to be used.
- COLOR:** Do not include the background colour to be used unless this is later required with PRESET.  
e.g. COLOR4:LINE(0,0)-(50,80),PSET.
- DATA** Do not enclose string data within quotation marks unless a comma is used as part of the data. e.g.  
DATA"2,4,5,T",AGENT ORANGE,DDT
- DIM:** Use single-dimension arrays rather than multi-dimension arrays where possible.  
e.g. DIMA(8,8) becomes DIMA(64). Use the zero elements of an array where possible. i.e. DIMA(20) holds 21 elements from A(0) to A(20). Arrays with less than 11 elements need not be dimensioned. i.e. You may use A(0) up to A(9) without a DIM statement. Only one DIM statement is required on a line dimensioning several arrays. e.g. DIMA(20),B(30).  
Only single-dimension arrays are needed for GET-PUT operations. Array size=INT(((X+1)\*Y+1)/M). X and Y are the dimensions of the graphics rectangle used. M=160 for PMODE0, M=80 for PMODE1/2, M=40 for PMODE3/4. A full graphics screen can be stored in an array of 1228 elements using this formula.

# SAVING MEMORY

by Rob Webb

Most programmers use more memory than necessary when creating Basic programs. Sometimes this is intentional when numerous remarks and spaces are added to make the program more easily read. However, some memory space is often wasted because programmers are unaware of various short-cuts that can be taken. Some of these short-cuts are made possible by simply utilizing the default cases of CoCo's Basic. e.g. PMODE3 means the same thing as PMODE3,1. Virtually all spaces can be deleted from a program except where a variable precedes a Basic word. e.g. IFA=B THENC=C+1. Often many short program lines can be placed on one line and separated by colons. e.g. 10PMODE3:PCLS:SCREEN1,0. It is not necessary to use quotation marks at the end of a program line. Here are some programming short-cuts which usually only save one or two bytes at a time, but in a long program, that can add up to a saving of hundreds or thousands of bytes, not to

**DRAW:** Do not use semi-colons except when executing a substring. Scale may be doubled to halve the length of lines used. Numeral "1" may be deleted from draw length and colour on most occasions. e.g. DRAW"BMO,0;C1;R10;D10;L10;U10" becomes DRAW"S8BMO,0CR5D5L5U5. Lines can be drawn by inserting only "M". e.g. DRAW "BMO,OR100M50,60M0,0.

**END:** May be deleted from the end of a program as the program will automatically end after the last line is executed.

**ELSE:** Do not use GOTO with ELSE. e.g. IFA=3THEN4DELSE80.

**FOR..NEXT:** Do not add the variable name to a loop. e.g. FORA=1TO500:NEXT. This also applies to nested loops. e.g. FORA=1TO5:FORB=1TO500:NEXT:NEXT.

**GOSUB:** Subroutines can be placed near the start of a program so that GOSUB commands refer to a small line number. e.g. GOSUB50000 becomes GOSUB5. This also reduces execution time of the program.

**INKEY%:** May be abbreviated as follows:  
10 A%=INKEY%:IFA%=""THEN10 becomes  
10 IFINKEY%=""THEN10. This only applies if A% is not needed within the program.

**IF..THEN:** To test if a variable is not equal to zero or if a string is not empty use: IFA THEN or IFA%THEN.  
Do not use THEN with a GOTO or GOSUB. e.g. IFA=3GOSUB80.

**PAINT:** Where practicable, start in the top-left corner of the object to be painted to reduce the size of the X,Y co-ordinates used. e.g. PAINT(100,100),3,4 becomes PAINT(0,0),3,4. Do not specify the colour of the border if this is the same as the painting colour. e.g. PAINT(50,50),4,4 becomes PAINT(50,50),4. Do not specify the painting colour if it is the same as that used in the most recent COLOR statement. e.g. COLOR2:PAINT(20,30):PAINT(50,70).

**PCLS:** Same as for CLS.

**PEEK:** To read the joystick fire buttons, you may PEEK any address within 338-345. e.g. PEEK(45280) becomes PEEK(338). the values are: 252=Both, 253=Left, 254=Right. However, these addresses are also used to PEEK the keyboard; so it may be possible to simulate pressing a fire button by pressing a particular key.

**PLAY:** Notes can be expressed as letters instead of numerals so that semi-colons are not necessary for separation. e.g. PLAY"10;12;1;3;5;6;8 becomes PLAY "ABCDEF6.

**PMODE:** Do not specify start page "1" where this is the page being used. e.g. PMODE3,1 becomes PMODE3.

**POINT:** As with PPOINT, to test if a cell is not "0" (black) use: IFPOINT(20,30) THEN etc. See also "IF..THEN".

**TAB:** It is not necessary to use a semi-colon between some TAB values. In cases where a semi-colon is necessary (after a variable), a space may be used instead. e.g. PRINTTAB(2)3TAB(6)A;TAB (9)B.

**PRINT%:** Only a comma and semi-colon are necessary for positioning an INPUT etc. e.g. PRINT%64,"";INPUTA% becomes PRINT%64,;;INPUTA%.

**PSET:** Do not specify the colour of a point if the colour is the same as a preceding COLOR statement. e.g. COLOR1:PSET(20,30):PSET(A,B).  
COLOR1:PSET(20,30):PSET(A,B).

**READ:** As with DIM, only one READ is required on a line. e.g. READA:READB:READC becomes READA,B,C.

**RENUM:** Renumbering a program from line number "0" in increments of 1 ensures the lowest possible line numbers are used with any GOTO, GOSUB, THEN or ELSE. i.e. RENUM,,1. Note: RENUM does not work for any line number associated with RUN.

**RND:** It is not always necessary to assign a variable name to a RND outcome. e.g. A=RND(3):IFA=1THEN50 becomes IFRND(3)=1THEN50.

**SCREEN:** When switching from graphics mode to normal text mode, it is not necessary to use "SCREEN,0" to do so. PRINT, INPUT or LINEINPUT will achieve the same result, but not CLS or SET.

**REM:** Use instead of an apostrophe where convenient. e.g. 10'\*\*\*\*\* becomes 10REM\*\*\*\*\*.

**SOUND:** In many cases, the pitch or length of a note can acceptably be reduced by one value. e.g. SOUND100,10 becomes SOUND99,9.

**STRING%:** Do not use characters within quotation marks, or CHR%. e.g. STRING\$(5,"A") becomes STRING\$(%,65). E.G. STRING\$(5,CHR\$(5,CHR\$(255))) becomes STRING\$(5,255).

# USER \_\_\_\_\_ FRIENDLYer

by  
Darcy  
O'Toole

6'day!

Letters crossing the desk this month pointed out a lot of users are having trouble with the content of the magazine they that's they subscribe to, ie either AUSTRALIAN RAINBOW or AUSTRALIAN CoCo.

It has been stated before but for our newer users and some of our older friends STILL, let's look at what goes into both magazines.

AUSTRALIAN RAINBOW, our flagship, is essentially an editorialised reprint of an American magazine titled THE RAINBOW (ie articles, programs, adverts etc are edited out if they are thought to have little or no relevance to Australian users).

Aussie Rainbow is for the middle or advanced user, leans toward more sophisticated languages and ideas as well as Basic language programs etc. Aussie Rainbow has some local content, the 'guts' of the magazine is American.

To accommodate the novice user we have AUSTRALIAN CoCo, (incorporating softgold for the models 1000, 2000 (when we can our friends who are into the MC-10)

The major difference between both magazines is that ALL content of Aussie CoCo is user contributed.

Articles, programs etc are sent to us from all over the country and then put into some sort of cohesive, publishable form.

It appears some of the users are getting into the 'wrong' magazine; new users getting lost in some of the darker recesses of Aussie Rainbow and more advanced people finding the subject matter and treatment in Aussie CoCo a little too pedestrian for their taste.

Then there are the few who demand to see our ability we try but alas we haven't the resources of the Murdochs, the Fairfaxs or the Packers.

What we do have is an ever increasing army of wonderful people who get off their hands, use the nous the someone gave them and instead of moaning and wanting everything served up to them on a paper plate every month, get involved and try to do it themselves.

Then, wonderful people that they are, send us the fruits of their labour for their fellow CoCo users to enjoy, learn and improve on, that's what we are all on about.

Speaking of letters.

Mrs J. (Joy) Wallace, a 60-year-old granny, (her words) writes '...I get a lot of help from your magazines although there is a terrible lot of it I don't understand. (there's a terrible lot some of us don't understand - Ed.).

She adds 'I would like to join a user group but I keep putting it off as I feel I would be out of place with a lot of young fry'.

Joy has put her finger on a point of view that I think a lot of users hold, which is unfortunate for them as well as us.

One of the first meets I attended was swamped with 'the young fry'. Absolute whizkids. Fortunately I sat and spoke to a gentleman who obviously wasn't a young fry by any stretch of the imagination, (no, it wasn't Graham) however, I learnt more about computing that one night from that gentleman than all the whiz kids put together because he had the ability to communicate and pass his knowledge onto poor, unwhizkid me.

Judging from Joy's letter she obviously has that skill to communicate, also from her drawing program in our draw competition she has the knowledge, so go to it Joy, don't let those little beggars get you down, THEY may even learn something.

continued from page 4

Finally, thank you to the staff of the magazine who all had the flu last month, but continued to do their jobs despite varying proximities to death. We were late to print, and our ever suffering printer was later getting the mags back to us.

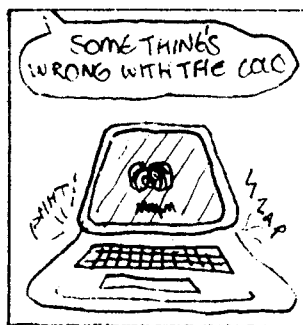
But on the plus side, we received some unexpected help from Cala and Lisa Miller, who were visiting from Melbourne, and we finally employed another person (Janet Kiwi), so we ended up only a week late when it could have been two!

We have had several months when we've worked harder, but few have been under such duress!

*John*

## THE ADVENTURES OF CoCo

by A. White



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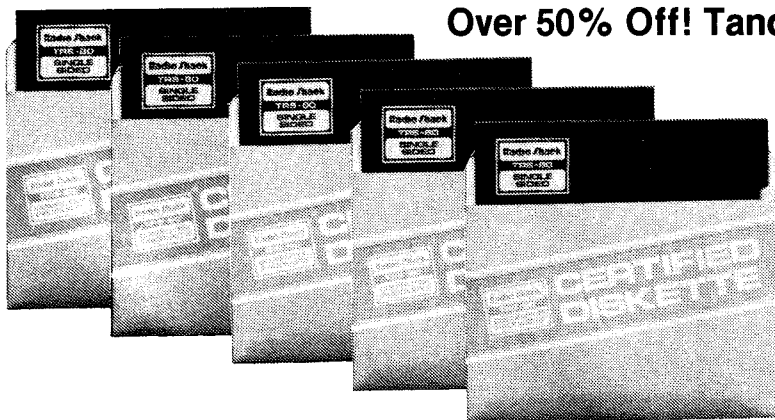
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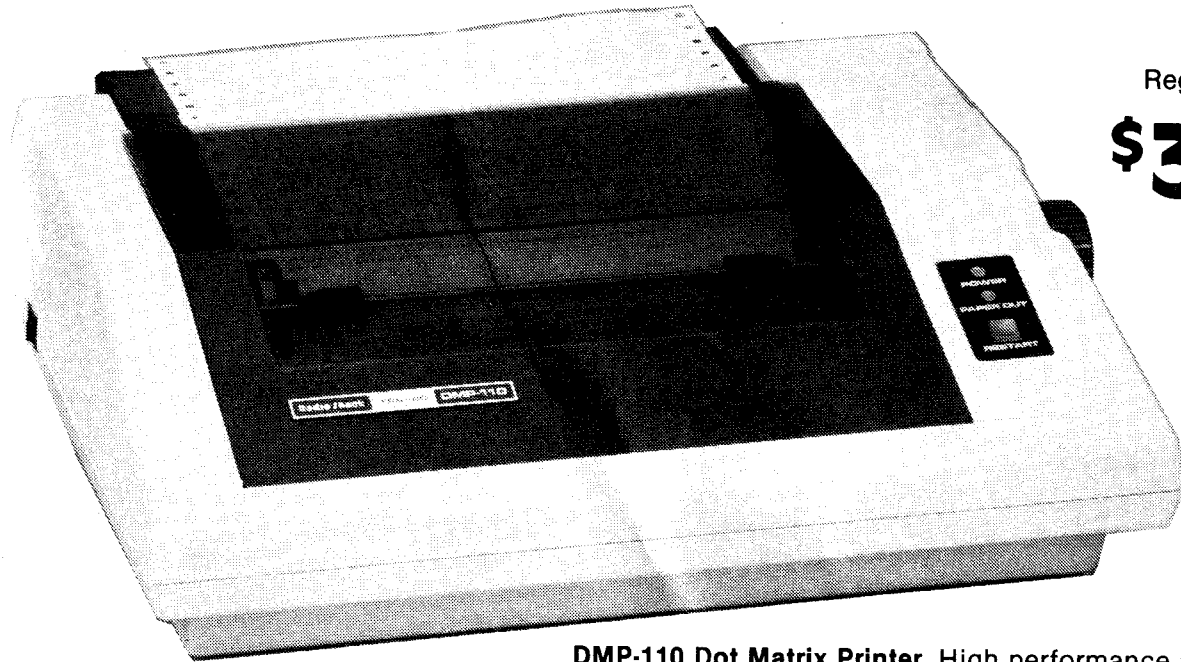
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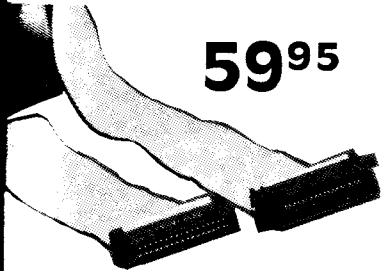
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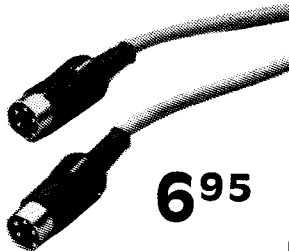
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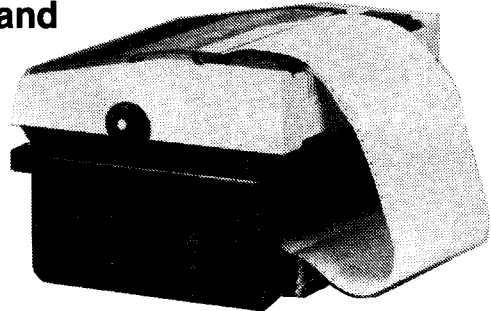
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# HORSE RACE



by Richard Cubit  
& Narelle Taylor

Richard, who brought you that excellent game "Ghostbusters" last month, this month teams with Narelle Taylor to bring you a horse racing program.

The races are run at Mooroolbark track which is noted for its unpredictability and its four horse races.

Richard and Narelle GIVE you \$100, and if you use a little skill you can make some money

I must apologise too to Richard, he tells me, contrary to what we said of the first screen in "Ghostbusters", that he wrote that bit before it came out in Rainbow.

Enough talk, get your binoculars out, type in the program and let's see if we can make some money from this Mooroolbark track!

## THE LISTING:

```

1 *****HORSE RACING*****
  RICHARD CUBIT & NARELLE TAYLOR
  AUSTRALIAN COCO OCTOBER 1985
2 GOTO10
3 SAVE"HORSRACE:2":DIR2:STOP
10 C=100
20 CLS (7)
30 R=0
40 PRINT 192,"*****HORSE-R
ACING*****"
50 PRINT 224,"*****BY RICHAR
D CUBITT*****"
60 PRINT 256,"*****AND NARELL
E TAYLOR*****"
70 PRINT 288,"*****1984
*****"
80 FOR A=1 TO 2000:NEXT A
90 CLS:PRINT"YOU ARE AT MOOROOLB
ARK PUBLIC RACE COURSE, YOU HA
VE BEEN GIVEN$100 TO BET WITH ON
THE EIGHT RACES BEING HELD."
100 GOTO 110
  
```

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```

110 Z=13:A1=10:B1=12:F=10:G=12:Z
2=13:A2=10:B2=12:F2=10:G2=12
120 Z3=13:A3=10:B3=12:F3=10:G3=1
2:Z4=13:A4=10:B4=12:F4=10:G4=12
130 PRINT"TO SEE THE ODDS PRESS
ANY KEY."
140 SD=150
150 A$=INKEY$:IF A$=""THEN 150
160 R=R+1:IF R=9 THEN 1340
170 CLS
180 H1 = RND (10)
190 H2 =RND (10)
200 H3=RND(10)
210 H4=RND(10)
220 Z=Z-H1:A1=A1-H1:B1=B1-H1:F=F
-H1:G=G-H1:Z2=Z2-H2:A2=A2-H2:B2=
B2-H2:F2=F2-H2:G2=G2-H2
230 Z3=Z3-H3:A3=A3-H3:B3=B3-H3:F
3=F3-H3:G3=G3-H3:Z4=Z4-H4:A4=A4-
H4:B4=B4-H4:F4=F4-H4:G4=G4-H4
240 PRINT"HERE ARE THE ODDS FOR
RACE NO:"R
250 PRINT"HORSE (1) YELLOW "H1"
TO 1"
260 PRINT"HORSE (2) GREEN "H2"
TO 1"
270 PRINT"HORSE (3) ORANGE "H3"
TO 1"
280 PRINT"HORSE (4) MAGENTA "H4"
TO 1"
290 PRINT
300 INPUT"WHICH HORSE DO YOU WAN
T TO BACK";B
310 IF B<1 OR B>4 THEN 300
320 INPUT "YOUR BET $";D
330 IF D>C THEN320:IF C-D<0 THEN
240
340 PRINT:PRINT"TO START THE RAC
E PRESS A KEY"
350 A$=INKEY$:IF A$="" THEN 350
360 REM DRAW TRACK
370 GOSUB 950
380 REM DRAW HORSES
390 GOSUB 1020
400 REM RND MOVES
410 V1=RND(6)
420 V2=RND(6)
430 V3=RND(6)
440 V4=RND(6)
450 FOR Q=1 TO 300:NEXT Q
460 REM RESET HORSES
470 REM H1
480 RESET (Z,3)
490 FOR E=A1 TO B1
500 RESET (E,4)
510 NEXT E
520 RESET (F,5)
530 RESET (G,5)
540 REM H 2
550 RESET (Z2,?)
  
```

AUSTRALIAN CoCo

```

560 FOR E2=A2 TO B2
570 RESET (E2,10)
580 NEXT E2
590 RESET (F2,11)
600 RESET(G2,11)
610 REM H3
620 RESET (Z3,15)
630 FOR E3=A3 TO B3
640 RESET (E3,16)
650 NEXT E3
660 RESET (F3,17)
670 RESET (G3,17)
680 REM H4
690 RESET (Z4,21)
700 FOR E4 =A4 TO B4
710 RESET (E4,22)
720 NEXT E4
730 RESET(F4,23)
740 RESET(G4,23)
750 SD=SD+5:IF SD=>250 THEN SD=2
50
760 SOUND SD,2:SOUND SD+2,2
770 REM NEW HOR
780 Z=Z+V1:A1=A1+V1:B1=B1+V1:F=F
+V1:G=G+V1
790 Z2=Z2+V2:A2=A2+V2:B2=B2+V2:F
2=F2+V2:G2=G2+V2
800 Z3=Z3+V3:A3=A3+V3:B3=B3+V3:F
3=F3+V3:G3=G3+V3
810 Z4=Z4+V4:A4=A4+V4:B4=B4+V4:F
4=F4+V4:G4=G4+V4
820 IF Z=>60 THEN 870
830 IF Z3=>60 THEN 910
840 IF Z2=>60 THEN890
850 IF Z4=>60 THEN 930
860 GOTO 390
870 SET (62,4,7):IF B=1 THEN 139
0
880 GOTO 1310
890 SET(62,10,7):IF B=2 THEN 141
0
900 GOTO 1310
910 SET(62,16,7):IF B=3 THEN 143
0
920 GOTO 1310
930 SET(62,22,7):IF B=4 THEN 145
0
940 GOTO 1310
950 CLS(0):FOR H=1 TO 60
960 FOR V=1 TO 25 STEP 6
970 SET (H,V,3):NEXT V:NEXTH
980 FOR V=1 TO 25
990 SET(60,V,3)
1000 NEXT V
1010 RETURN
1020 REM H1
1030 SET(2,3,2)
1040 FOR E=A1 TO B1
1050 SET (E,4,2)
1060 NEXT E
  
```

October, 1985



```

1070 SET(F,5,2)
1080 SET (G,5,2)
1090 REM H2
1100 SET(Z2,9,6)
1110 FOR E2=A2 TO B2
1120 SET (E2,10,6)
1130 NEXT E2
1140 SET (F2,11,6)
1150 SET (G2,11,6)
1160 REM H3
1170 SET (Z3,15,8)
1180 FOR E3=A3 TO B3
1190 SET (E3,16,8)
1200 NEXT E3
1210 SET(F3,17,8)
1220 SET (G3,17,8)
1230 REM H4
1240 SET(Z4,21,7)
1250 FOR E4=A4 TO B4
1260 SET (E4,22,7)
1270 NEXT E4
1280 SET (F4,23,7)
1290 SET (G4,23,7)
1300 RETURN
1310 C=C-D
1320 IF C=0 THEN 1340
1330 PRINT#416,"YOUR HORSE DID N
OT WIN, YOU ONLY HAVE $*C* LEFT":
GOTO 100
1340 CLS:PRINT"YOUR RACING DAY I
S OVER. YOU FINISHED WITH
*$*C
1350 IF C<99 THEN PRINT"NOT A V
ERY GOOD DAYS PUNTING.":IF C<99
THEN END
1360 IF C<500 THEN PRINT"NOT A
BAD DAYS PUNTING. WELL D
ONE!":IF C<500 THEN END
1370 IF C<1000 THEN PRINT"EXCEL
LENT PUNTING !! YOU SHOULD BE DO
ING THE REAL THING.":IF C<1000
THEN END
1380 IF C>1000 THEN PRINT"WELL D
ONE CHAMPION YOU SHOULD BEPROUD
OF YOURSELF. TOP OF THE - CLASS!
":END
1390 C=C+(D*H1):PRINT#416,"YOU H
AVE WON AND NOW HAVE $*C
1400 GOTO 100
1410 C=C+(D*H2):PRINT#416, "YOU
HAVE WON AND NOW HAVE $*C
1420 GOTO 100
1430 C=C+(D*H3):PRINT#416,"YOU H
AVE WON AND NOW HAVE $*C
1440 GOTO 100
1450 C=C+(D*H4):PRINT#416,"YOU H
AVE WON AND NOW HAVE $*C
1460 GOTO 100

```

4K

# CONNECT 4

by Kevin Smith

I have only been subscribing to Australian CoCo. & Rainbow since June '85 and I must congratulate the staff on two great magazines. Since getting them I have learnt a great deal and am convinced that CoCo is a very powerful computer and will be around for a very longtime yet.

I would like also to thank the many computer 'addicts' who have sent in some great programs which have given me a better idea of the workings of my CoCo, especially the Delbourgo's, what an imaginative family!

I have created this program called 'CONNECT FOUR' to be published in COCO.

This is a program I have been thinking about ever since I first got my CoCo, it took me a fair while to sort it out (about two mths.) but as you will see it was worth the long sleepless nights at the keyboard; I hope you like it.

I won't give any instructions now as the program contains a full explanation. Two things though: the program contains a lot of variables, so please don't try to change any as it will go haywire if you do and Type lines 90-124 exactly as they are, these do the checking for four in a row.

Anyway that's all I have to say for now, hope you all like the program.

THE LISTING:

```

0 *****
* CONNECT FOUR *
* ADAPTED FOR THE 64K COCO. *
* BY *
* KEVIN R SMITH *
* AUGUST 1985 *
* ***** *
1 * THIS PROGRAM & LISTING *
* REMAINS THE PROPERTY OF *
* KEVIN R SMITH *
* (C) AUGUST 1985 *
*****

```

```

2 GOT04
3 POKE65494,0:SAVE"CONNECT4:2":E
ND

```

AUSTRALIAN CoCo

```

4 POKE65495,0:CLEAR500
5 CLS0:PMODE1,1:PCLS
6 DIM A(5,5),H1(13),H2(13),H3(13
),V1(13),V2(13),V3(13),L$(96)
7 PC=7:M=1
8 AR$="C3R4D6R6G8H8R6U6"
9 DRAW"BM14,20"+AR$
10 GET(8,8)-(34,34),A,G
11 TI$="BD2H2L5G2D5F2R5E2BR5U5E2
R5F2D5G2L5H2F2R5BR7U9R3F5D2U7D9B
R6U9R3F5D2U7D9BR6R7L7U5R5L5U4R7B
R14BD2H2L5G2D5F2R5E2BR5BR5BD2U9L
4R8BR15D9U5R4L4U4R8BR4BD7U5E2R5F
2D5G2L5H2F2R5BR7BU2U7D7F2R5E2U7B
R5D9U9R5F2D1G2L5R3F4"
12 PL$="R5F1D4G1L5U5D10BD6D10R5B
D7BL5R5D10U5L5U5D10BD5D4F3E3U4D4
G3D4"
13 Q$="C2G2D3U3E2R6F2D6G4D5BD5BR
1D2L2U2R2L2D2BD8BL3G2D3U3E2R6F2D
6G4D5BD5BR1D2L2U2R2L2D2BD8BL3G2D
3U3E2R6F2D6G4D5BD5BR1D2L2U2R2L2D
2"
14 CH$="C3BD2H2L5G2D6F2R5E2BD6D1
0U5L8U5D10BD4R8L8D5R5L5D5R8BD4BD
2H2L5G2D6F2R5E2BD5G5L3U5D10U5R3F
5BD4BL2L4R2D10L2R4BR2BD4D10U2H8D
10BD4BR6F2H2L4G2D6F2R4E2U2L2R3"
15 DR$="C2R8F2D11U6L12U6E1G1D12B
D10R10F2D8G2L10U11D11BD5R10F2D3G
2L10U7D13U6R5F6BD5BL10R8F2D11U6L
12U6E1G1D12BD5D12R1E5F5R1U12"
16 CF$="L10D7R5L5D10BD10D15F2R8E
2U15D15G2BD10BL10D15R10BD10BL10D
15R10"
17 WN$="D12R1E5F5R1U12BR2BD23BL6
L4R2D10L2R4BR2BD12D12U2H10D12BD1
0BR8F2H2L4G2D3F2R4F2D3G2L4H2"
18 EN$="G5E5F5BD7L10D5R5L5D5R10B
D7D12U2H10D12BD7R10L5D10BD7BR5L1
0D5R5L5D5R10BD7BL10R8F2D3G2L8U7D
13U6R4F6BD7G5H5"
19 BD$="C1R5D3L7U6R7BR5BD3"
20 FOR2=1TO13
21 READ H1(Z),H2(Z),H3(Z),V1(Z),
V2(Z),V3(Z)
22 NEXTZ
23 GOSUB135:GOT037
24 DATA -32,-64,-96,-25,-50,-75
25 DATA -32,-64,32,-25,-50,25
26 DATA -32,32,64,-25,25,50
27 DATA 32,64,96,-25,-50,-75
28 DATA -32,32,64,25,-25,-50
29 DATA -32,-64,-96,25,50,75
30 DATA 32,64,96,25,50,75
31 DATA 32,64,96,0,0,0
32 DATA -32,32,64,0,0,0
33 DATA -32,-64,-96,0,0,0
34 DATA 32,-32,-64,0,0,0
35 DATA 0,0,0,25,50,75

```

```

36 DATA -32,-64,32,25,50,-25
37 PMODE1,1:PCLS:SCREEN0,0
38 DRAW"C2BM55,0"+T1$
39 COLOR3,1
40 LINE(3,40)-(222,187),PSET,B
41 FORH=17T0209STEP32
42 FORV=51T0176STEP25
43 CIRCLE(H,V),10,3
44 NEXTV,H
45 PAINT(30,50),2,3
46 GOSUB60:SCREEN1,1
47 PCOPY1T03:PCOPY2T04
48 CH=0:PC=PC+1:IFPC>8THEN PC=7
49 FORO=1T08:CIRCLE(240,57),0,PC
:NEXTO
50 GOSUB127:DRAW"S6C"+STR$(PC)+"
BM237,85"+PL$
51 CIRCLE(240,57),8,PC:PLAY"V4L8
01C":CIRCLE(240,57),8,5
52 I1$=INKEY$:IF I1$=""THEN51
53 IF I1$=CHR$(9)THENM=M+1:GOSUB5
7:Y=Y-32:W=W-32:GOSUB68:GOTO51
54 IF I1$=CHR$(8)THENM=M-1:GOSUB5
7:Y=Y+32:W=W+32:GOSUB68:GOTO51
55 IF I1$=CHR$(13)THENCIRCLE(240,
57),0,PC:GOSUB73:NM=NM+1:GOTO48
56 IF I1$(<)CHR$(9) OR I1$(<)CHR$(8)
OR I1$(<)CHR$(13)THEN51
57 IFM=<0THENM=1 ELSE IFM>8THENM
=8
58 ON M GOSUB60,61,62,63,64,65,6
6
59 RETURN
60 I=8:J=34:Y=4:W=30:H=17:GOTO67
61 I=40:J=66:Y=36:W=62:H=49:GOTO
67
62 I=72:J=98:Y=68:W=94:H=81:GOTO
67
63 I=104:J=130:Y=100:W=126:H=113
:GOTO67
64 I=136:J=162:Y=132:W=158:H=145
:GOTO67
65 I=168:J=194:Y=164:W=190:H=177
:GOTO67
66 I=200:J=226:Y=196:W=222:H=209
:GOTO67
67 PUT(I,11)-(J,37),A,PSET:PAINT
(H,29),3,3:RETURN
68 IFY<=0 OR W<=0 THENY=4:W=30
69 IFY>196 THENY=196:W=222
70 COLOR1
71 LINE(Y,18)-(W,38),PSET,BF
72 RETURN
73 GOSUB127:DRAW"S4BM237,85"+O$
74 FORV=51T0176STEP25
75 IFPOINT(H,V)=5THEN78
76 IFPOINT(H,V)=7THEN V=V-25:IF
V<51 THENGOSUB126:GOTO49 ELSE G
OTO79
77 IFPOINT(H,V)=8THEN V=V-25:IF

```

```

V<51 THENGOSUB126:GOTO49 ELSE G
OTO79
78 IF V=176 THEN 79 ELSE NEXT
79 PLAY"L255V3003GECGECGEC":F
ORO=1T07:CIRCLE(H,V),0,PC:NEXT:P
LAY"L255V3003GECGECGEC":NM=NM
+1
80 IFNM<7 THEN48
81 GOSUB83:IFNM=42 THEN129
82 GOTO48
83 GOSUB127:DRAW"BM245,75"+CH$
84 FORF=17T0209STEP32
85 FORR=51T0176STEP25
86 CH=CH+1
87 IFF+R=H+V THEN89
88 NEXTR:NEXTF
89 ONCH GOTO93,93,93,97,97,97,92
,91,90,94,95,96,100,99,98,101,10
2,103,106,105,104,107,108,109,11
2,111,110,113,114,115,118,117,11
6,119,120,121,123,123,123,122,12
2,122
90 X=5:GOSUB124
91 X=3:GOSUB124
92 X=9:GOSUB124
93 X=7:GOSUB124:X=8:GOSUB124:X=1
2:GOSUB124:RETURN
94 X=3:GOSUB124
95 X=5:GOSUB124
96 X=9:GOSUB124
97 X=4:GOSUB124:X=8:GOSUB124:RET
URN
98 X=2:GOSUB124:X=5:GOSUB124:X=1
3:GOSUB124
99 X=3:GOSUB124
100 X=7:GOSUB124:X=8:GOSUB124:X=
9:GOSUB124:X=11:GOSUB124:X=12:60
SUB124:RETURN
101 X=3:GOSUB124:X=4:GOSUB124:X=
13:GOSUB124
102 X=2:GOSUB124:X=5:GOSUB124
103 X=4:GOSUB124:X=8:GOSUB124:X=
9:GOSUB124:X=11:GOSUB124:RETURN
104 X=2:GOSUB124:X=5:GOSUB124
105 X=3:GOSUB124:X=13:GOSUB124
106 X=6:GOSUB124:X=7:GOSUB124:X=
8:GOSUB124:X=9:GOSUB124:X=10:GOS
UB124:X=11:GOSUB124:X=12:GOSUB12
4:RETURN
107 X=3:GOSUB124:X=13:GOSUB124
108 X=2:GOSUB124:X=5:GOSUB124
109 X=1:GOSUB124:X=4:GOSUB124:X=
8:GOSUB124:X=9:GOSUB124:X=10:GOS
UB124:X=11:GOSUB124:RETURN
110 X=2:GOSUB124:X=5:GOSUB124
111 X=3:GOSUB124:X=13:GOSUB124
112 X=6:GOSUB124:X=9:GOSUB124:X=
10:GOSUB124:X=11:GOSUB124:X=12:6
OSUB124:RETURN
113 X=3:GOSUB124:X=13:GOSUB124

```

```

114 X=2:GOSUB124:X=5:GOSUB124
115 X=1:GOSUB124:X=9:GOSUB124:X=
10:GOSUB124:X=11:GOSUB124:RETURN
116 X=2:GOSUB124
117 X=13:GOSUB124
118 X=6:GOSUB124:X=10:GOSUB124:X
=11:GOSUB124:X=12:GOSUB124:RETUR
N
119 X=13:GOSUB124
120 X=2:GOSUB124
121 X=11:GOSUB124
122 X=1:GOSUB124:X=10:GOSUB124:R
ETURN
123 X=6:GOSUB124:X=10:GOSUB124:X
=12:GOSUB124:RETURN
124 IFPOINT(H,V)=PC AND POINT(H
H+H1(X),V+V1(X))=PC AND POINT(H
+H2(X),V+V2(X))=PC AND POINT(H+
H3(X),V+V3(X))=PC THENCOLOR1:LIN
E(H,V)-(H+H1(X),V+V1(X)),PSET:LI
NE-(H+H2(X),V+V2(X)),PSET:LINE-(
H+H3(X),V+V3(X)),PSET:GOTO128
125 SOUND250,2:RETURN
126 GOSUB127:DRAW"C2BM245,85"+CF
$:SOUND10,10:FORD=1T0800:NEXT:RE
TURN
127 COLOR1:LINE(230,73)-(249,185
),PSET,BF:RETURN
128 GOSUB127:DRAW"C"+STR$(PC)+"B
M234,90"+WN$:FORX=1T05:PLAY"L255
V3005BAGFEDC04BAGFEDC03BAGFEDC02
BAGFEDC01BAGFEDC":NEXTX:GOTO130
129 GOSUB127:DRAW"C3BM237,85"+DR
$:FORX=1T08:PLAY"L255V20058BBC05
AAAC046GGC03FFFC02EEECO1DDDC":NE
XT:GOTO130
130 GOSUB127
131 I1$=INKEY$:DRAW"C2BM240,75"+
EN$
132 DRAW"C4BM240,75"+EN$
133 IF I1$=CHR$(13)THENPCOPY3T01:
PCOPY4T02:H=17:NM=0:M=1:GOTO47
134 GOTO131
135 PMODE4,1:PCLS
136 FORL=1T096
137 READS$
138 IFS$="*"THEN141
139 L$(L)=S$
140 NEXTL
141 GOTO160
142 DATA BR3BU1U1BU2U6BD10BR4,BR
2BU10D2BR3U2BD10BR2,BR3BU1U3L2BU
2R2U3BR1D3R2BD2L2D3BD1BR3,BU2BR1
R4E1U1H1L3H1U1E1R4BU1BL2D8L1U8D8
BD1BR4,BU2BE1E5BL4BD1H1BF4F1BD3B
R1,BR8,BR4BU9D2BD7BR3
143 DATA BR6BU1L3H2U4E2R3BR1BD9,
BU1BR1R3E2U4H2L3BD9BR7,BU5R7BU5E
L3D10BL4BU1E7BL7BU1F7BD2,BU5R7BU
5BL3D10BR3,BR4BU2L1U1R1D2G1BR4,B

```

```

U5BR1R5BR1BD5,BR4U1L1D1R1BR3,BU2
BR1E5BD7BR1
144 DATA BU2BR1U6E1R3F1D6G1L3H1E
3U1E2BR1BD8,BU8BR3E1D8L1R2BD1BR2
,BU8BR1E1R3F1D2G1L3G1D3R5BD1BR1,
BU8BR1E1R3F1D2G1L3R3F1D2G1L3H1BD
2BR6,BR5BU1U8G4D1R5BR1BD4,BU10BR
6BD1L5D3R4F1D3G1L3H1BD2BR6,BU10B
R6BD1L4G1D6F1R3E1U2H1L3G1D2BD2BR
6
145 DATA BU9BR1R4F1D2G5BD1BR6,BR
5BU1L3H1U2E1H1U2E1R3F1D2G1L3R3F1
D2G1BD1BR2,BR6BU6G1L3H1U2E1R3F1D
6G1L3H1BD2BR6,BR3BU7U1R1D1L1BD4D
1R1U1L1BD3BR4,BR3BU7U1R1D1L1BD4D
1R1U1L1BF1D1G1BR4,BR6BU1H4E4BR1B
D9,BU4BR1R5BU2L5BD6BR6,BU9BR1F4G
4BD1BR6
146 DATA BU8BR1E1R3F1D2G1L2D1BD1
D2BD1BR4,BR10,BR1BU1U6E2R1F2D3L5
R5D3BD1BR1,BU1BR1U8R4F1D2G1L4R4F
1D2G1L4BD1BR6,BR6BU8H1L3G1D6F1R3
E1BD2BR1,BU1BR1U8R3F2D4G2L3BD1BR
6,BU1BR1R5L5U4R4L4U4R5BR1BD9,BU1
BR1U4R4L4U4R5BR1BD9
147 DATA BR6BU8H1L3G1D6F1R3E1U1H
1L1BD4BR3,BU1BR1U8D4R5U4D8BD1BR1
,BU1BR1R2U8L2R4L2D8R2BD1BR1,BU2B
R1F1R2E1U7L1R2BR1BD9,BU1BR1U8D5E
5G4F4BD1BR1,BU1BR1U8D8R5BD1BR1,B
R1BU1U7E1R2D8U8R2F1D7BD1BR1,BR1B
U1U8F2D1F1D1F1D1F1U8D8BD1BR1
148 DATA BU2BR1U6E1R3F1D6G1L3H1B
D2BR6,BU1BR1U7E1R3F1D2G1L3H1BD6B
R6,BR5BU1L3H1U6E1R3F1D5G1H2F3BR1
BD1,BR1BU1U7E1R3F1D2G1L3H1F5BD1B
R1,BU2BR1F1R3E1U2H1L3H1U2E1R3F1B
D8BR1,BR4BU1U8L3R6BR1BD9,BR1BU2U
7D7F1R3E1U7BR1BD9,BR4BU1H3U5BR5D
5G3BD1BR4
149 DATA BU9BR1D7F1R1E1U7D7F1R1E
1U7BR1BD9,BU1BR1U2E5U1BL5D1F5D2B
D1BR1,BR3BU1U4E3U1BL5D1F3D4BD1BR
3,BU9BR1R5D2L1D1L1D1L1D1L1D1D2
R5BD1BR1,BR10,R10,BR10,BR3BU1U8F
3H3R1G3E3D8BD1BR3,BU5BR1E4G4R5L5
F4BD1BR2,BR4BU1U8D8E3G3R1U8D8H3F
3BD1BR3,BR2BU1E4L5R5H4F4BR1
150 DATA ##
151 P1$=STR$(P1):P2$=STR$(P2):XX
$="BM"+P1$+"",P2$:DRAW XX$
152 Z=0
153 LL=LEN(LL$):FOR L=1TOLL:OO$=
LEFT$(LL$,L)
154 LS$=RIGHT$(OO$,1)
155 IF LS$=" "THEN Z=6:GOTO157
156 IFL$=""THENRETURNELSEZ=ASC(
LS$):Z=Z-32
157 IFZ<1THENRETURNELSEDRAW L$(Z
):PLAY"TS005;9"

```

```

158 NEXTL
159 RETURN
160 FORK=6T0246STEP10:GOSUB177:D
RAW"BM"+K$+",5"+BD$:NEXT:FORK=15
T0175STEP10:GOSUB177:DRAW"BM246,
"+K$+BD$:NEXT:FORK=246T046STEP-10
:GOSUB177:DRAW"BM"+K$+",185"+BD$
:NEXT:FORK=185T015STEP-10:GOSUB1
77:DRAW"BM6,"+K$+BD$:NEXT
161 SCREEN1,1:DRAW"SB":LL$="CONN
ECT FOUR":P1=40:P2=35:GOSUB151
162 DRAW"SB":LL$="ADAPTED TO THE
64K COCO.":P1=40:P2=70:GOSUB151
:LL$="BY":P1=120:P2=90:GOSUB151:
LL$="KEVIN ROSS SMITH":P1=70:P2=
110:GOSUB151:LL$="(C) AUGUST 198
5":P1=72:P2=130:GOSUB151
163 LL$="DO YOU NEED INSTRUCTION
S ( Y/N )":P1=13:P2=170:GOSUB151
164 I$=INKEY$
165 IF I$="Y"THENGOTO168
166 IF I$="N"THENRETURN
167 IF I$=""THEN164
168 P2=0:PCLS:FORP2=10T0191STEP1
5
169 READ LL$
170 IFL$="##"THENGOSUB176:RETUR
N
171 P1=0
172 GOSUB151
173 NEXTP2
174 GOSUB176:GOTO168
175 RETURN
176 IF INKEY$=""THEN176ELSERETURN
177 K$=STR$(K):RETURN
178 DATA HELLO MY NAME IS KEVIN
R SMITH,CONNECT FOUR IS THE SAME
AS THE,POPULAR GAME WE ALL KNOW
.I HAVE,CONVERTED IT TO BE PLAY
ED ON THE,64K COCO. THE ONLY DIF
FERENCE IS,THE COMPUTER CHECKS F
OR FOUR IN,A ROW FOR YOU.
179 DATA WATCH THE RIGHTHAND SID
E OF THE,PLAYING BOARD FOR MESSA
GES.??? MEANS THE COMPUTER IS C
HECKING,FOR A VALID MOVE.,CHECKI
NG MEANS IT IS CHECKING FOR,FOUR
IN A ROW.,FULL MEANS THAT COLUM
N IS FULL.,WINS DISPLAYED IN PLA
YERS COLOR
180 DATA MEANS THAT PLAYER HAS '
4' IN A ROW.,DRAW MEANS SIMPLY A
DRAW NO WINNER.,<ENTER> MEANS P
RESS ENTER TO CLEAR,BOARD AND ST
ART ANOTHER GAME.,
181 DATA USE LEFT AND RIGHT ARRO
W KEYS TO,MOVE TOP ARROW INTO PO
SITION WANTED.,THEN PRESS <ENTER
> TO PLACE.,,<< PRESS ANY INKEY
TO BEGIN GAME >>,##

```

AUSTRALIAN CoCo

# TIMESAVE

by John Carmichael

This program makes programming a little quicker by giving you some single key commands and an automatic EDIT on error.

CLOADM this program and EXEC. It installs itself at the top of RAM for both 16K and bigger, and gives a message about the single key commands.

It takes up 444 bytes of memory. It will only work in the ECB CoCo 2, because it uses the RAM hooks and a few ROM routines. Modifications could be made for Disk and Standard: Anyone who wants to change it can send me a tape and a return paid envelope, for a copy of the Edtasm+ file. (P.O. Box 595 Taree 2430)

TIMESAVE makes use of 3 keys which are not used when in direct (programming) mode. Press the right arrow and your program will automatically run.

Press the down arrow and your program will list, it will temporarily stop listing if you are not pressing a key. Hold down any key to continue the list. (The speed of the LIST is related to whether your program is at PCLEAR1 or PCLEAR8).

Press the SHIFT+2 keys down and an inverse E appears (short for EDIT) now type the line number and press enter.

If the computer encounters an error while RUNNING your program, it will automatically list the offending line, with the error message, ready to be EDITed. That is, it will put you in edit mode.

In addition to all this, while you are programming you can save typing out the long commands by first pressing the CLEAR button, and then the first letter of the following words. When you do, the whole word will appear on the screen. Press the CLEAR button twice to clear the screen.

### COMMAND KEYS;

Circle Data Else Goto Input  
Joystk( Inkey\$ Left( Mid\$( Next  
Play Return Sound Then

TIMESAVE is not destroyed by NEW, the Reset button or CLEARing more string space. If you want to put

machine code at the top of RAM, TIMESAVE uses the top 444 bytes.

If you like these programming features then I can thoroughly recommend Platinum Software's WORKSAVER program, which makes TIMESAVAR look like a toy by comparison. (I never program without first loading WorkSaver).

The assembly listing is included for those interested. I would be pleased to hear from anyone who can suggest more efficient means of achieving the result.

THE LISTING:

```

1 REM CLEAR MEMORY IF NECESSARY
2 FOR I= 21577TO 22189
3 READ Q$:POKEI,VAL("&H"+Q$):NEXT
  I
4 EXEC 1970
5 DATA AF,AF,AF,AF,AF,AF,AF,AF,AF,
  F,AF,AF,AF,AF,AF,AF,AF,AF,AF,
  AF,AF,AF,AF,AF,AF,AF,AF,AF,AF,
  ,AF,AF,AF,AF,AF,AF,AF,AF,AF,AF,
  F,AF,60,54,49,4D,45,53,41,56,45,
  60,AF,AF,AF,AF,AF,AF,AF,AF,AF,AF,
  ,AF,AF,AF,AF,AF,AF,AF,AF,AF,AF,
  A
6 DATA AF,AF,AF,AF,AF,AF,AF,AF,AF,
  F,AF,AF,AF,AF,AF,AF,AF,AF,AF,AF,
  AF,AF,9E,68,8C,FF,FF,26,1,39,BD,
  A7,E9,BD,A9,74,BD,AD,33,F,6F,BD,
  B9,5C,34,4,1F,50,C3,0,23,1F,1,BD,
  ,B9,9C,35,4,8E,AB,AF,3A,BD,AC,A0,
  ,BD,AC,A0,8E,AB,E0,BD,B9,9C,BD,B
  9
7 DATA 58,9E,68,9F,2B,7E,85,36,5
  0,4C,45,41,53,45,20,46,49,58,20,
  54,48,49,53,20,0,BD,8C,F1,D,6F,2
  7,1,39,32,62,F,70,34,14,BD,A1,99,
  ,BD,A1,CB,27,F8,81,9,27,F,81,13,
  27,3D,81,A,27,20,81,C,27,54,7E,A
  1,B9,35,14,8E,2,DD,C6,4,86,52
8 DATA A7,80,86,55,A7,80,86,4E,A
  7,80,34,14,86,D,20,E4,35,14,8E,2
  ,DD,C6,5,86,4C,A7,80,86,49,A7,80,
  ,86,53,A7,80,86,54,A7,80,20,E1,3
  5,14,8E,2,DD,C6,5,86,45,A7,80,86,
  ,44,A7,80,86,49,A7,80,86,54,A7,8
  0,86,65,12,BD,A2,82,20,92,BD,A1,
  99
9 DATA BD,A1,CB,27,F8,81,C,27,A0
  ,81,43,25,84,81,54,22,80,80,43,1
  F,53,33,C8,1D,33,C6,E6,C4,10,27,
  FF,71,33,C5,35,14,A6,C0,10,27,FF,
  ,65,A7,80,5C,BD,A2,82,20,F2,12,1
  8,1C,0,1F,0,22,27,2E,34,3A,3F,0,
  42,0,45,4B,50,43,49,52,43,4C,45,
  0

```

```

10 DATA 44,41,54,41,0,45,4C,53,4
  5,0,47,4F,54,4F,0,49,4E,50,55,54
  ,0,4A,4F,59,53,54,4B,28,0,49,4E,
  4B,45,59,24,0,4C,45,46,54,24,28,
  0,4D,49,44,24,28,0,4E,45,58,54,0
  ,50,4C,41,59,0,52,45,54,55,52,4E
  ,0,53,4F,55,4E,44,0,54,48,45
11 DATA 4E,20,0,34,17,9E,68,8C,F
  F,FF,26,F,7F,FF,2,B6,FF,0,43,48,
  27,F6,9E,19,BD,A7,D3,35,17,39,41
  ,52,52,4F,57,53,3A,20,52,49,47,4
  8,54,3D,20,72,75,6E,20,20,44,4F,
  57,4E,3D,20,6C,69,73,74,20,20,53
  ,48,49,46,54,2B,40,20,3D,45,44,4
  9,54
12 DATA 20,3D,65,D,0,9E,21,30,89
  ,FE,44,9F,21,9E,27,30,89,FE,44,9
  F,27,9F,23,AE,E4,10,DE,21,34,10,
  9E,27,30,2,CE,6,0,A6,C0,A7,80,11
  ,83,7,80,26,F6,86,7E,B7,1,8E,B7,
  1,6A,B7,1,7F,DC,27,C3,0,2,FD,1,8
  F,C3,0,4F,FD,1,6B,C3,1,16
13 DATA FD,1,80,BD,A9,28,8E,7,7F
  ,7E,B9,9C,FF

```

Machine Language Listing:

```

00080 * JOHN CARMICHAEL
00090 * P.O. BOX 595, TAREE
00095 * -----
00100 * EXEC AT 'GO'
00105 * -----
00110 * AUTO EDIT ON ERROR
00120     OPB     $600
00140 START   LDX     $68
00150     CMPX    #$FFFF
00160     BNE     CONT
00170     RTS
00180 CONT    JSR     $A7E9
00190     JSR     $A974
00200     JSR     $A033
00210     CLR     $6F
00220     JSR     $B95C
00230     PSHS    5
00240     TFR     PC,D
00250     ADDD    #35
00260     TFR     D,X
00270     JSR     $B99C
00280     PULS    B
00290     LDX     #$ABAF
00300     ABX
00310     JSR     $ACA0
00320     JSR     $ACA0
00330     LDX     #$ABE0
00340     JSR     $B99C
00350     JSR     $B958
00360     LDX     $68
00370     STX     $2B
00380     JMP     $B536
00390     FDC

```

PLEASE FIX THIS

AUSTRALIAN CoCo

```

00400 FIN     FCB     $0
00410 * RIGHT ARROW= RUN
00420 * DOWN ARROW= LIST
00430 * SHIFT +3 =EDIT=e
00440 * -----
00450 START1   JSR     $8CF1
00460     TST     $6F
00470     BEQ     SCREEN
00480     RTS
00490 SCREEN   LEAS    2,S
00500     CLR     $70
00510 RUN1     PSHS    X,B
00520 AGAIN    JSR     $A199
00530     JSR     $A1CB
00540     BEQ     AGAIN
00550     CMPA    #9
00560     BEQ     RUN
00570     CMPA    #19
00580     BEQ     EDIT
00590     CMPA    #10
00600     BEQ     LIST
00610     CMPA    #12
00620     BEQ     CNTRL
00630     JMP     $A1B9
00640 RUN     PULS    B,X
00650     LDX     #$200
00660     LDB     #4
00670     LDA     #'R
00680     STA     ,X+
00690     LDA     #'U
00700     STA     ,X+
00710     LDA     #'N
00720     STA     ,X+
00730     PSHS    X,B
00740     LDA     #13
00750     SRA     RUN-3
00760 LIST    PULS    B,X
00770     LDX     #$200
00780     LDB     #5
00790     LDA     #'L
00800     STA     ,X+
00810     LDA     #'I
00820     STA     ,X+
00830     LDA     #'S
00840     STA     ,X+
00850     LDA     #'T
00860     STA     ,X+
00870     BRA     RUN+#13
00880 EDIT    PULS    B,X
00890     LDX     #$200
00900     LDB     #5
00910     LDA     #'E
00920     STA     ,X+
00930     LDA     #'O
00940     STA     ,X+
00950     LDA     #'I
00960     STA     ,X+
00970     LDA     #'T
00980     STA     ,X+
00990     LDA     #'S

```

01000	NOP		01380	FCB	3+66	01800	BACK	PULS	CC,A,B,X
01010	JSR	\$A282	01390	FCB	2+73	01810		RTS	
01020	BRA	RUN1	01400	FCB	1+79	01815	*	START UP MESSAGE	
01025	* CLEAR + KEY COMMANDS		01410	FCC	.CIRCLE.	01820	FCC	.ARROWS:	
01028	* -----		01420	FCB	0			RIGHT= run	
01030	CNTRL JSR	\$A199	01430	FCC	.DATA.			DOWN= list	
01040	JSR	\$A1CB	01440	FCB	0			SHIFT+Q =EDIT =e.	
01050	BEQ	CNTRL	01450	FCC	.ELSE.				
01055	CMPA	#12	01460	FCE	0				
01058	BEQ	RUN-3	01470	FCC	.GOTO.	01830	FDB	\$0D00	
01060	CMPA	#'C	01480	FCB	0	01835	*	RESERVE MEMORY	
01070	BLO	AGAIN	01490	FCC	.INPUT.	01840	GO	LDX	#21
01080	CMPA	#'T	01500	FCB	0	01850		LEAX	-\$1BC,X
01090	BHI	AGAIN	01510	FCC	.JOYSTK.	01860		STX	#21
01100	SUBA	#'C	01520	FCB	0	01870		LDX	#27
01105	TFR	PC,U	01530	FCC	.INKEY\$.	01880		LEAX	-\$1BC,X
01110	LEAU	\$10,U	01540	FCB	0	01890		STX	#27
01120	LEAU	A,U	01550	FCC	.LEFT\$K.	01900		STX	#23
01130	LDB	,U	01560	FCB	0	01910		LDX	,S
01140	LBEG	AGAIN	01570	FCC	.MID\$K.	01920		LDS	#21
01150	LEAU	B,U	01580	FCB	0	01930		PSHS	X
01160	PULS	X,B	01590	FCC	.NEXT.	01940		LDX	#27
01170	OUT	LDA	01600	FCB	0	01950		LEAX	2,X
01180		LBEG	01610	FCC	.PLAY.	01960		LDU	#START
01190		STA	01620	FCE	0	01970	MOVE	LDA	,U+
01200		INCB	01630	FCC	.RETURN.	01980		STA	,X+
01210		JSR	01640	FCB	0	01990		CMPJ	#BACK+3
01220		BRA	01650	FCC	.SOUND.	02000		BNE	MOVE
01225	* OFFSET TABLE TO WORD		01660	FCB	0	02005	*	GET RAM HOOKS	
01230	TABLE	FCB	01670	FCC	.THEN .	02010		LDA	#37E
01240		FCB	01680	FCB	0	02020		STA	#18E
01250		FCB	01685	*	LIST PAUSE	02030		STA	#16A
01260		FCB	01688	*	-----	02040		STA	#17F
01270		FCB	01690	START2	PSHS	02050		LDD	#27
01280		FCB	01700		LDX	02060		ADDD	#2
01290		FCB	01710		CMPX	02070		STD	#18F
01300		FCB	01720		BNE	02080		ADDD	#34F
01310		FCB	01730	KEY	CLR	02090		STD	#16B
01320		FCB	01740		LDA	02100		ADDD	#116
01330		FCB	01750		COMA	02110		STD	#180
01340		FCB	01760		ASLA	02120		JSR	\$A928
01350		FCB	01770		BEQ	02130		LDX	#BACK+2
01360		FCB	01780		LDX	02140		JMP	\$B99C
01370		FCB	01790		JSR	02150		END	



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**LAND ATTACK UPDATE**

by Kevin Smith

In AUGUST '85 COCO p.32 'LAND ATTACK' the following corrections/alterations I have made get the program working fine.

LINE46 DRAW"BM76,108C4D4" This gets the left firing post working.

LINE184 IFSC>HSC THENGOSUB221 This puts up a new high score.

LINE188 IFTS>180THEN226 This checks for extra time if score is over 1000.

# DODGE

by Justin Lipton

Justin provided those helpful tips last month and this month returns with a very nice program called "Dodge".

The object is to dodge what is being dropped and go through the door.

In the first screen, anvils are dropped which you dodge using the left and right arrow keys, and escape through the door. Each time you exit, a rung appears on a ladder which you eventually climb.

The second screen contains two doors and is much harder. Justin is the Users' Group contact at Doncaster in Victoria.

## THE LISTING:

```
1 /*****DODGE*****/
   *****JUSTIN LIPTON*****
   AUSTRALIAN COCO OCTOBER 1985
2 GOTO10
3 SAVE"DODGE:2":DIR2:STOP
10 CLS:PRINT @173,"DODGE";:PRINT
   @ 231,"BY JUSTIN LIPTON.":;PRIN
   T @ 298,"HIT ANY KEY";:SCREEN 0,
   1
20 A$=INKEY$:IF A$="" THEN 20 EL
   SE 40
25 CLS
30 PCLEAR8:PRINT @ 203,"GAME OVE
   R";:PRINT @ 298,"HIT ANY KEY";:S
   CREEN 0,1
31 A$=INKEY$:IF A$="" THEN 31
40 LAD =175
50 MAN=6:LMAN=200
60 DIMT(20,35)
65 DIM KL(36,8)
70 DIMV(16,20)
80 PMODE0,1:PCLS
90 DRAW"BM50,50;S7L4D2R4L2D2L2R3
   "
100 GET(39,45)-(55,65),V,G
110 DRAW"BM 100,100;L2G2D2F2R2E2
   U2D2G2D1R3D5L2D5L2U3D3L3U5L1U5R2
   "
120 GET(88,95)-(108,130),T,G
130 PCLS:SCREEN 1,1
140 LINE(220,20)-(220,180),PSET:
   LINE(235,20)-(235,180),PSET
150 FOR GH=LMAN TO 230 STEP6:LIN
   E(GH,3)-(GH+2,5),PSET,BF:NEXT GH
160 W=40:X=150:Y=60:Z=185
170 A=40:B=5:C=56:D=25:E=90:F=5:
   G=106:H=25:I=140:J=5:K=156:L=25
171 REM
180 PUT(A,B)-(C,D),V,PSET
190 IF RND(35)<33 THEN HJ=0:DRA
   W"C5":LINE(165,150)-(168,185),PS
   ET,B:GOTO 210
```

```
200 DRAW"C0":LINE(165,150)-(168,
   185),PSET,B:HJ=1
210 IF PPOINT(C-10,D+2)=5 AND D<
   190 THEN 400
220 IF PPOINT(G-10,H)=5 AND H<19
   0 THEN 400
230 IF PPOINT(K-10,L)=5 AND L<19
   0 THEN 400
240 A$=INKEY$
250 PUT(E,F)-(G,H),V,PSET
260 PUT(I,J)-(K,L),V,PSET
270 PUT(W,X)-(Y,Z),T,PSET
280 IF W=140 THEN 310
290 IF A$=CHR$(9)THEN Y=Y+50:W=Y
   -20:DRAW"C0":LINE(W-50,X)-(Y-50,
   Z),PSET,BF
300 IF W=40 THEN 330
310 IF A$=CHR$(8)THEN W=W-50:DRA
   W"C0":Y=W+20:LINE(W+50,X)-(Y+50,
   Z),PSET,BF
320 IF A$=CHR$(9)AND HJ=1 AND W=
   140 THEN 430
330 ON RND(3) GOTO 340,360,380
340 D=D+6:B=D-20:IF D>215 THEN D
   =25:B=5
350 PLAY"T100A":GOTO 180
360 H=H+6:F=H-20:IF H>215 THEN H
   =25:F=H-20
370 PLAY"T100C":GOTO 180
380 L=L+6:J=L-20:IF L>215 THEN L
   =25:J=5
390 PLAY"T100E":GOTO 180
400 SCREEN 1,0:PLAY"T3L801CDE-EF
   -P8CP8L44G#AG#AG#AG#AGAL8GP16L16
   B02CP1601GP16CP2":SCREEN 1,1:GH=
   GH-6:MAN=MAN-1:DRAW"C0":LINE(GH,
   3)-(GH+2,5),PSET,BF
410 LINE(A,B)-(C,D),PSET,BF:LINE
   (E,F)-(G,H),PSET,BF:LINE(I,J)-(K
   ,L),PSET,BF:IF MAN=0 THEN 25
415 IF CREEN =2 THEN LINE(M,N)-(
   O,P),PSET,BF
416 DRAW"C5"
420 IF CREEN =2 THEN RETURN ELSE
   GOTO 170
430 DRAW"C0":LINE(W,X)-(Y,Z),PSE
   T,BF:PUT(W+50,X)-(Y+50,Z),T,PSET
   :FOR TIME=1 TO 260:NEXT TIME:PLA
   Y"03T60ABCDEFG":LINE(W+50,X)-(Y+
   50,Z),PSET,BF:W=40:X=150:Y=60:Z=
   185
440 DRAW"C5":LINE(220,LAD)-(235,
   LAD),PSET:LAD=LAD-10:IF LAD=15 T
   HEN GET(199,1)-(235,9),KL,G:GOTO
   470
450 L=L+6:J=L-20
460 GOTO 180
470 PLAY "T2L1603GEG04C03GECDEDO
   2G03L48CDCECF0GCACBC04L16CP1605C
   P6":PCLS
```

```

471 CREEN =2
475 LINE(38,50)-(38,190),PSET:LI
NE(50,50)-(50,190),PSET:LINE(55,
47)-(250,47),PSET
480 FOR UN=185 TO 55 STEP -10
490 LINE(38,UN)-(50,UN),PSET
495 SOUND UN ,1
500 NEXT UN
505 ROPE=20
510 W=35:Y=55:X=10:Z=45
520 PUT(W,X)-(Y,Z),T,PSET
525 IF W=233 THEN 540
530 W=W+2:Y=W+20:GOTO 520
540 PCLS:X=10:Y=30:W=10:Z=45
545 PUT(W,X)-(Y,Z),T,PSET
550 Z=Z+2:X=Z-35:IF Z=185 THEN 5
55
554 GOTO 545
555 DRAW"BM 15,20;S4R3F2D3G2L3H2
U3":PAINT(17,22),5,5
560 GET(11,12)-(27,32),V,G
564 PUT(199,1)-(235,9),KL,PSET
565 A=11:B=12:C=27:D=32:E=56:F=1
2:G=72:H=32:I=101:J=12:K=117:L=3
2:M=146:N=12:O=162:P=32
570 PUT(A,B)-(C,D),V,PSET:PUT(E,
F)-(G,H),V,PSET:PUT(I,J)-(K,L),V
,PSET:PUT(M,N)-(O,P),V,PSET
575 QQQ=RND(4): ON QQQ GOTO 576,
577,578,579
576 B=B+6:D=B+20:PLAY"T10001A":G
OTO 580
577 F=F+6:H=F+20:PLAY"T10001C":G
OTO 580
578 J=J+6:L=J+20:PLAY"T10001E":G
OTO 580
579 N=N+6:P=N+20:PLAY"T10001G":G
OTO 580
580 IF B>186 THEN B=12:D=B+20
581 IF F>186 THEN F=12:H=F+20
582 IF J>186 THEN J=12:L=J+20
583 IF N>186 THEN N=12:P=N+20
599 IF D>191 THEN 609
600 IF PPOINT(C-10,D+2) = 5 THEN
GOSUB 400:GOTO 565
609 IF H>191 THEN 619
610 IF PPOINT(G-10,H+2)=5 THEN G
OSUB 400:GOTO 565
619 IF L>191 THEN 629
620 IF PPOINT(K-10,L+2) = 5 THEN
GOSUB 400:GOTO 565
629 IF P>191 THEN 640
630 IF PPOINT(O-10,P+2)=5 THEN G
OSUB 400:GOTO 565
640 A#=INKEY#
650 PUT(W,X)-(Y,Z),T,PSET
660 IF W=10 THEN 700
670 IF W<145 THEN 690
680 IF W=145 AND OP=1 THEN 690 E
LSE 700

```

```

690 IF A#=CHR$(8) THEN W=W-45:Y=
W+20:LINE(W+45,X)-(Y+45,Z),PRESE
T,BF
700 REM
710 IF W=145 AND DO=1 THEN 740
711 IF W=145 THEN 750
720 IF OP=1 THEN 740
730 IF W=100 THEN 750
740 IF A#=CHR$(9) THEN W=W+45:Y=W
+20:LINE(W-45,X)-(Y-45,Z),PRESET
,BF
741 IF W>145 THEN PUT(W,X)-(Y,Z)
,T,PSET:FOR TIME=1 TO 260:NEXT T
IME:PLAY"03T60ABCDEFGG":LINE(W,X)
-(Y,Z),PRESET,BF:W=10:Y=30:LINE(
215,ROPE)-(215,ROPE+10),PSET:ROP
E=ROPE+10:IF ROPE=180 THEN 900
750 IF RND(20)>18 THEN OP=1:LINE
(134,183)-(138,150),PRESET,B: EL
SE OP=0:LINE(134,183)-(138,150),
PSET,B
760 IF RND(30)>28 THEN DO=1:LINE
(175,183)-(179,150),PRESET,B:ELS
E DO=0:LINE(179,183)-(175,150),P
SET,B
800 GOTO 570
900 PLAY"T1001EFGBCAEDAGFCEDCBGE
ADDABCGEADGCAEFEBCEDEGAEDBCDEDEGBC
EDC"
905 POKE 65495,0
910 GOTO 40

```

## ToTo Advertising



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# SCOREBOARD

by Michael Horn

For those of you who are having problems taking photos from the TV, the trick is to have a dark room with only the TV on, and to use a slow shutter speed of 1/15 of a second or less. This is because the TV flickers at high speeds (not noticable by the eye) and a shutter speed any faster than 1/15 of a sec can catch the flickers and ruin the photo. A film with an ASA of 100 is usually the best to use.

Here are some letters I've received this month.....

Dear Michael,

Just a note from us programmers come game players down in the coldness of the base of the Blue Mountains (ie. in Lithgow). While we've been playing a few games on our CoCo and have made a few high scores in a few different games as well as coming up with my arcade games playing philosophy of don't play to win play to survive.

This method of play is incredibly useful in the playing of the games of such as Trapfall, Frog Trek, Microbes and

Polaris.

I thank you for giving us people out in the west the first opportunity to obtain back issues of Rainbow, but our club has a copy of all the Rainbows dating bac to No.1 Vol.1. all two pages of it.

Also I was wondering if you knew any one who sells C-10 tapes at a reasonable price.

Stuart Rayner (Lithgow Club Secretary) LITHGOW, N.S.W.

Dear Stuart,

You can obtain C-10 tapes from the Rainbow for \$0.95 each or 12 for \$10.00

Michael.

continued on page 54

ASTRO BLAST (Mark Data)	52000	Ken Uzzeil	Roseville	23300	Andrew Law	Sunbury	325100	Chris Nagle	Leeton	184180	Michael Horn	Gold Cst	29100					
DAVID COLEMAN (Yeronga)	52000	Ken Uzzeil	Roseville	23300	Andrew Law	Sunbury	325100	Chris Nagle	Leeton	184180	Michael Horn	Gold Cst	29100					
ASTRO LAUNDER (CoCo Software)	CLIMNS (Tandy)	4250	Paul Harris	Minto	30420	Steven Marks	Yanco	9412	PROJECT NEBULA (Tandy)	540	Paul Harris	Minto	2067300					
ATON (Tandy)	Darren Reed	Watsonia	20950	Todd Michell	Robinvale	7779	Paul Simpson	540	SPACE SENTRY	540	Paul Harris	Minto	2067300					
DAVID THURBON (Found.1) x	Brendan Gay	Gold Cst	16970	Chris Nagle	Leeton	6985	Michael Horn	Gold Cst	410	SPACE SHUTTLE (Tom Mix)	Bonaderry	515						
BSM RIDER (Spectral)	DEFENSE (Spectral)	47255	Ken Uzzeil	Roseville	14000	KHETI KAZE (Color Quest)	Ken Uzzeil	Roseville	255	Lachlan Mead	Bonaderry	515						
TONY EVANS (Bowen)	483060	Paul Harris	Minto	47255	Ken Uzzeil	Roseville	14000	PROTECTOR (Tom Mix)	Andrew Law	Sunbury	163322	Richard Pankhurst	Rsvll1	344				
DAVID THURBON (Canberra)	83530	Michael Horn	Gold Cst	33600	LANCER (Spectral)	Richard Pankhurst	Rsvll1	31730	N. Bloomfield	Sydney	148650	STEVEN BULLOCK	Roseville	1589				
BUST OUT (Tandy)	Richard Pankhurst	Rsvll1	4640	DBSN ASSULT (Hardvack)	Paul Harris	Minto	2076600	NICK COOPER	58745	Simon Cox	Dubbo	220	STARFIRE (Intelllectronics)					
ALIX HARTMANN (20 Balls)	Gold Coast	Richard Pankhurst	Rsvll1	31250	Glynn Catherall	Old Cst	30366	J Gans	Watsonia	220	STARFIRE (Intelllectronics)							
BLUDGEON (Computerware)	20 Balls	1869	DBSN SEED (Comp Shack)	Ken Uzzeil	Roseville	11350	L Vanjour & G Hill	NSW	75300	QUASER	Richard Pankhurst	Rsvll1	87	PAUL HARRIS	Minto	42110		
PAUL HARRIS (Minto)	234675	DEVIJUS (Spectral)	Ken Uzzeil	Roseville	11350	L Vanjour & G Hill	NSW	75300	C Boxall	44400	Richard Pankhurst	Rsvll1	87	PAUL HARRIS	Minto	42110		
MICHAEL HORN (Gold Cst)	29825	R Boxall	28820	Michael Horn	Gold Coast	14900	MEGABUG (Tandy)	Simon Cox	58745	Simon Cox	Dubbo	220	STARFIRE (Intelllectronics)					
COLLEEN JAMES (Gold Cst)	4425	DONKEY KING (Tom Mix)	Darryn Hedd	107500	Lord Lehane	105400	Chris Nagle	Leeton	15398	Richard Pankhurst	Rsvll1	50	SANDS OF EGYPT (Tandy)					
CALLIXO (Mark Data)	Darryn Hedd	107500	Lord Lehane	105400	Chris Nagle	Leeton	15398	Richard Pankhurst	Rsvll1	50	SANDS OF EGYPT (Tandy)							
J GANS (Bris)	162	DARION SIMPSON	Leeton	82900	Johanna Vagg	Forbes	8672	RODIO BALL (Tandy)	Paul Harris	Minto	1004950	TIME BANDIT (HiChron)	Lachlan Mead	Bonaderry	104670			
CANYON CLIMBER (Tandy)	882800	Tina Harper	6000	DOUBLE BACK (Tandy)	Prospect	351540	Andrew Wyllie	Somerset	185550	RETURN OF THE JET-1	L4/33177	Darryn Hedd	87200					
MICHELLE AVERY (Woy Woy)	236900	DOUBIE BACK (Tandy)	Prospect	351540	Andrew Wyllie	Somerset	185550	ROBOT BATTLE (Spectral)	Michael Horn	Gold Cst	9300	TUICHTONE	Grant Hanner	Perth	62610			
SHARON AVERY (Woy Woy)	236900	DOUBIE BACK (Tandy)	Prospect	351540	Andrew Wyllie	Somerset	185550	ROBOT BATTLE (Spectral)	Michael Horn	Gold Cst	9300	TUICHTONE	Grant Hanner	Perth	62610			
STEVE LEMKE (Bris)	77101800	Ian Reynolds	highest grab	140870	R Boxall	MONSTER WAZE (Tandy)	Ian Reynolds	Prospect	250840	Alex Hartmann	Gold Cst	4900	MIKE DRISCALL	L0/4850	TRAPFALL (Spectral)	Paul Harris	Minto	62830
CASHMAN (Comp Shack)	Rsvll1	4640	Michael Horn	Gold Coast	4310	MONSTER WAZE (Tandy)	Ian Reynolds	Prospect	250840	Alex Hartmann	Gold Cst	4900	MIKE DRISCALL	L0/4850	TRAPFALL (Spectral)	Paul Harris	Minto	62830
Richard Pankhurst (Rainbow)	Rsvll1	1509	Richard Pankhurst	Rsvll1	19140	MONTE ZOMERS (Computer Hut)	Richard Pankhurst	Rsvll1	60	DAVID THURBON	Canberra	47918						
CAVERN COPTER (Rainbow)	Rsvll1	1509	Richard Pankhurst	Rsvll1	19140	MONTE ZOMERS (Computer Hut)	Richard Pankhurst	Rsvll1	60	DAVID THURBON	Canberra	47918						
ESKI (Chomasette)	Alan Mansfield	Quoiba	16188	MIKE DRISCALL	Bowen	27650	SECTER	Richard Pankhurst	Rsvll1	40	DAVID THURBON	Canberra	47918					
FIRECOPTER (Adventure Intl.)	R Boxall	69152	David Thurbon	Canberra	27700	Ian Choat	WON IN 7 min. 47 sec. Keith Savage	Ken Uzzeil	Roseville	TUT'S TOMB (Mark Data)	Bowen	53280						
FEDBOTS REVENGE	Tony Evans	Bowen	4750	LEIGHT EAMES	Emerald	1132250	Ken Uzzeil	Roseville	TUT'S TOMB (Mark Data)	Bowen	53280							
Richard Pankhurst	Rsvll1	1050	MS GOBLER (Spectral)	Alan Mansfield	Quoiba	8760	J Dougan & J Gans	Bris	165	Alex Hartmann	Gold Cst	24680						
FLYBY (Chomasette)	David Coleman	Yeronga	32000	Ken Uzzeil	Roseville	8490	J Holt	Glen Iris	150	VIKING	Watsonia	100	Ken Uzzeil					
FRUGGER (Tandy)	Andrew Law	Sunbury	12500	Richard Pankhurst	Rsvll1	8124	SHARK (Computerware)	King in 16 years										
FRUG TREK	Darren Reed	Watsonia	9770	PINBALL (Tandy)	Alan Mansfield	Quoiba	90000	WHIRLWIND RIN (Spectral)	Lachlan Mead	Bonaderry	94200							
Richard Pankhurst	Rsvll1	8550	Ian Choat	O'Connell	174950	J Gans	SHERMANS (Mark Data)	Bris	112	Eddie Driscall	Bowen	81300						
GALACTIC ATTACK (Tandy)	Greg & Ian Choat	Ochill	129680	LACHLAN MEAD	Bonaderry	90450	Carla Miller	Burwood	V	148	R Boxall	42375						
Ian Choat	O'Connell	42160	DAVID COLEMAN	Yeronga	48500	C Hinton & G Hill	NSW	54310	COLLEEN JAMES	Gold Cst	39165							
Darren Reed	Watsonia	35800	POLARIS (Tandy)	Leeton	31306	Sharon Avery	Woy Woy	52700	R Boxall	34692								
GALAX ATTACK (Spectral)	Alan Mansfield	Quoiba	39400	NEIL PRINCE	Forbes	13040	Peter Bostock	Woonagar	51800	Michael Horn	Gold Cst	34151						
DAVID COLEMAN	Yeronga	27950	POLTERBEIST (Tandy)	Leeton	4845	JACK RAE	Mitsa	0:36.00	NICK COOPER	77100								
GHOST GOBLER (Spectral)	Stuart Sanders	118510	STEVEN HARKS	Yanco	4455	IAN CHOAT	O'Connell	90040	Michael Horn	Gold Cst	31400							
Ian Choat	O'Connell	L10/94640	ALEX HARTMANN	Gold Cst	2205	SPACE ASSULT (Tandy)	Minto	40290	MIKE FITZPATRICK	S.A.	118700							
STEVEN HARKS	Yanco	1876250	POV/M (Datassoft)	C Hinton & G Hill	NSW	301150	Nick Cooper	16949	K Holtzapfel	Brisbane	115800							
DAVID OGDEN	Bull Creek	L7/43810	Ian Reynolds	Prospect	1288850	PAUL HARRIS	Minto	40290	MIKE FITZPATRICK	S.A.	118700							
ICERBLOCK	Richard Pankhurst	Rsvll1	58610	MIKE FITZPATRICK	S.A.	105150	Darren Reed	Watsonia	10430	JASON COOK	St Clair	104600						



# mere mail

For the benefit of all our subscribers, especially our new ones, we feel a few important details about our mailing system should be made clear.

1. When writing, or telephoning, please quote your subscriber number where relevant. It makes life a WHOLE lot easier. Many of you don't know where to find this number.

It is located in the top left-hand side of your computer - printed label which appears on each month's magazine(s).

e.g. 3915 Feb 86 Feb 16 Feb C6

This means that subscriber number 3915 has subscriptions to Rainbow, CoCo and CoCo Oz current till Feb 1986. Letters which appear on your label include:

I=CoCo.

C=CoCoOz.

T=R on Tape charged monthly.

R=R on Tape - prepaid.

A=Rainbow, CoCo and CoCoOz.

Z=MicoOz.

D=CoCoOz - charge credit card monthly.

B=Rainbow.

If you disagree with any of these due dates, please don't wait 4 or 5 months to notify us. Let us know as soon as practicable.

As a rule, our magazines go to the printer at the beginning of the third week of the month. Last month was an exception, owing to ill health, unheralded power repairs in the street and a printer's machine packing up. This is why your magazines were late last month. Some mail OBVIOUSLY went astray in the post. Before you contact us to let us know your magazine has not arrived, ask at your local Post Office to make sure they know nothing about it. Failing that let us know, and will organise for another copy to be sent before the 10th of the month.

It has become increasingly apparent in the last few months that a worrying amount of mail IS leaving our office and not reaching it's destination. As a result, we have decided to keep a list on stray mail for action by Australia Post. You may also wish to complain to your local Post Office. Some subscribers are asking for their tapes to be sent priority paid or certified mail in an attempt to ensure they receive them. This is not good enough!

Sometimes, of course, the error is on our part, and the items required are not sent. As soon as we are notified, we act on the matter. Magazines may not arrive because a subscriber's details were not put into our data base - we unfortunately, are human too.

We have two types of mail:

1. Registered Mail - Australian Rainbow and Australian  
October, 1985

CoCo magazines.

2. Unregistered Mail - tapes, books, cassette cases, disks, etc.

These have to be packed separately, as per Australia Post requirements. Our incoming mail is opened each morning and all monies banked. Some items are packed by hand within the next few days and sent out once every seven to ten days.

Australia Post stipulates a minimum monetary value on weekly mail before it can be sent at bulk rates (This could account for some slowness in items being received). Another cause for lateness might be that your letter arrives a day after the most recent weekly mail has been posted. That means, on the whole, another week's wait before your book, tape or magazine leaves our office.

If you are notifying us of mail you have paid for but not received, please provide relevant details to help us locate your payment and date payment was made, whether cheque, credit card or money order as well as what the payment was for.

We have complete sets of back issues of Rainbow to the beginning of 1983. Prior to that we have a few months in 1982 and possibly a few December, 1981 (if requested these are sent if stocks are still available). The half price special is still current for issues including, and prior to, December, 1984.

To date, we still have no master from the U.S.A. for July, 1984 Rainbow on Tape. There are still many subscribers who have paid for this tape and not let us know which replacement tape they would like.

PLEASE, those paying for items sent on invoice either return the invoice, or quote the invoice number and date sent when making payment. Otherwise, it can take forever to try and locate our duplicate invoice for purposes of noting that payment has been made. This applies especially if you are including payment of an invoice as part of an annual subscription to a tape or magazine.

This should help clear up some uncertainties you may have about our mailing system. Remember, we are only too happy to answer your enquiries or sort out your problems.

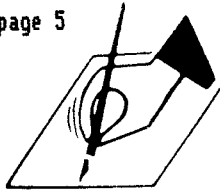
Graham, Annette and Sonya.

(Editor, editor's wife and secretary extraordinaire)

P.S. We are happy to receive home phone calls after hours, but please try and avoid ringing between 6 and 7pm. We like to eat our dinner without the phone interrupting us. Shared family time is precious to us all. Graham is a very devoted father and loves to catch up with his little girl's activities at dinner time and then read to her before bedtime.

# LETTERS

continued from page 5



Dear Graham,  
I have had my MC-10 for 16 months and am still a novice. I was totally lost until I discovered Coco/Mico. Now I learn something new everyday. The Coco section is worth reading for Mico owners as there are clues in there too. I am hoping my next correspondence will be a printable program. Thanks for the lightning response to my plea for a cheaper TP-10 (it's now on lay-by at Tandy, Mackay).

Now for the point of my letter. I think Graham Pollock should be knighted for services to computerery. His "Screenzot" (April Coco/Mico) is as intriguing as always. It leaves me with two questions however. Firstly, what are the square brackets that come up on the screen. (A new function or operator perhaps?) and what do they do in BASIC (if anything).

I note that Mico can produce all characters as well as Alphas in reverse video! Please Graham, is there an easy way to do this. I have been dying for some reverse video numerals for a program I have been working on.

I have just worked out they are ASCII codes 91,93, and 95 respectively. Do they do anything? Keep it up. I can't get enough of Coco/Mico!  
David McGuinness  
ETON, QLD.

David,  
I can't answer your questions as well as I should be able to, so I'll leave it to one of the MC 10 experts to reply!  
Graham.

Dear Graham,  
Could you please supply me with some information on the assembler for the MC-10. If Tandy supply it could you please give me the CAT-No. and a price. If someone else supplies it could you tell me who supplies it and the price.  
John Craig  
WAGGA, N.S.W.

John,  
Mike Turk in Canberra is working on one now. We'll let you know through this magazine, when it is ready.  
Graham.

Dear Graham,  
Just a short note to thank you and all your authors. My children and I are all learning a lot by typing the programs in and getting them to work. The magazine is eagerly awaited each month. Thank you also for thinking of those on a limited budget with the Best of CoCo2z tapes.

One thing that worries me is the number of children and teenagers which are given a computer and no parental help, as I have come across quite a bit of this among children at my children's school. Maybe now Tandy have the magazine this may help.

Please pass on to John Day thanks for Cattle Baron as it is greatly enjoyed by my children and their friends. The only thing I find is if you get more than two young teens playing it sounds as if the cattle are there too.

As a new learner I agree with you about new learners helping each other, there is nothing greater than being able to do this. We found this at a meeting when one of our teens helped me and I was able to help him in return. At that stage we had both only had our computers for three or four months.

The others I would like to thank are Johanna Vagg for Countries/Languages. This program with data changes is used by my two for many things. Bob Horne for Area and Perimeter. Also the Delbourgo family for the many enjoyable programs I have found very helpful.

Geraldine Courtney  
WODONGA, VIC.

## Dear Doctor CoCo



Dear Doctor CoCo,  
Could you please explain the high speed poke.  
POKE 65495,0 on power up.  
?PEEK(65494)=126  
?PEEK(65495)=126 after POKE 65495,0 (the high speed poke)  
?PEEK(65494)=126  
?PEEK(65495)=126

How come the high speed poke works even though the value at these addresses have not changed. The same is true when you POKE 65494,0 to return to normal speed.

Secondly could you please tell me how I can have more than one machine language program (ie. utilities in memory at the same time.

For example E2 list and Little E (Australian Rainbow, December, 1984 and January, 1985 edition).

Do you know where I can get a decent memory trap and a list of Pokes, Peeks, etc for a 64K ECB CoCoII.

Michael Robinson  
FOREST HILL, VIC.

Dear Michael,  
The high speed POKE is not achieved by writing data into a manual memory location. Eg. it works on a 16K machine which has no RAM at this location. It is a location in the range of addresses allocated to the SAM MC6883 in SYNCHRONOUS ADDRESS MULTIPLEXER which is the "traffic policeman" of your CoCo.

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The SAM by way of its register settings controls the method of operation of the computer. ie graphics, modes, memory size, memory map type, and most important to you, the micro processor speed.

When you write to locations 65494 and 65495 you are setting or resetting these registers and this action controls the speed, not the actual contents of the locations.

Your question on having more than one M/L program in memory at one time is best explained by the comparison of memory to a large line of mail boxes. When you EXEC 12345 you are telling the 6809 to look in mail box number 12345 and follow the instruction it finds there. Obviously to perform any useful function this instruction must be the start of a workable routine which may be 10 to 10,000 steps in length.

If you find program ends at 14,000 and you have sufficient RAM you can load another program starting above this location. Eg 25000-26000. Now if you EXEC 25000 you will run the second M/L program which is totally independent of the program resident at 12345-14080.

A recommended reference on the memory map and information on PEEKS and POKES for the CoCo is "FACTS" available from this magazine.

Dear Doctor CoCo,  
I have a disk system and have struck a snag with the arrow keys when the disk controller is plugged  
AUSTRALIAN CoCo

in only the value of 341 to 345 does not return to 255 when the keys are let up only when you press any other key will it return (makes games real fun). Why does it happen. Also are there any locations to be peeked to return the same value for letters a-z.

By the way, the mags are really great. Thanks (from the wilderness).

Steve Youngberry  
TARA, N.S.W.

Dear Steve,  
You must have TANDY DOS 1.1 as this problem is confined to that version and there is no easy solution other than changing your disk controller. I do not fully understand your question on lower case letters but the above locations only indicate the key is pressed not the case. To confirm upper or lower case PEEK (288) upper case returns 255, lower case returns 0.

If you need the values for keyboard scan of letters A-Z the following table will help.

Value:-	254	253	251	247	239	223	191
Location	338	339	340	341	342	343	344
	2	A	B	C	D	E	F
	H	I	J	K	L	M	N
	P	Q	R	S	T	U	V
	X	Y	Z	UP	DOWN	LEFT	RIGHT
	0	1	2	3	4	5	6
	8	9	:	;	,	-	.
	ENTER	CLEAR					
							SPACE
							7

October, 1985

# MiCo

They say that staring at a blank sheet of paper, or in this case a blank computer screen is the leading cause of frustration diseases in limited memory computer magazine editors.

So this month I had an idea. A first you say?? I have scattered about me a few hints and tips for the MiCo so why not gather them all together and pass them all on to you. So here we go:

- POKE49151,64 Turns the text orange/black
- POKE49151,0 Turns the text green/black
- SOUND will also turn the text green/black
- POKE17026,xxx Any of the 128 graphics ASCII (p. 116 of your manual) characters poked here will give you that cursor. Values 0-127 repeat those from 128-255
- POKE16932,57 enables your RS232 (printer) port to run at 1200 Baud and thats fast!
- POKE16932,111 Restores Baud rate to normal speed
- 17025-5 Contains the location of the cursor. PEEK

these locations and store the values as a variable to later POKE back to those addresses and restore the cursors position.

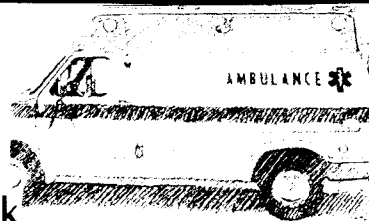
Play around POKEing different values to memory location 16958 and watch what happens.

I apologise for being unable to credit the now unknown contributors of these hints. If you have some more tips we can put together like this then let us know. If I can make a habit of including short hints etc within my 'editorial' then when you need to remember that obscure POKE you shouldn't have to dig through pages and pages of the magazine, but rather just to the beginning of the MiCo section. Today its a good idea but your support is needed to make it work.

*Kevin*

## I/O RECOVERY

by Graham Pollock



Have you ever spent 3 hours typing in a program only to find that you **CSAVED** the first copy on the leader and your other 2 copies have got I/O ERRORS right smack in the middle of them. What do you do? You SCREAM of course!!

No more screaming! Here's a utility which will come to your rescue. After you RUN it, you can CLOAD your bad tape and recover MOST of your program. Notice that I said "most" and not "all". You will have to go through the program and add the bit or bits which have been left out. While the tape is CLOADing you are told each time an error has occurred. This will only react to an I/O ERROR and mico behaves in a normal way for FM and DM ERRORS.

The Listing:

```
1 CLS:PRINT"I/O RECOVERY BY G.PO
2 LLOCK"
3 GOTO10
4 FORSV=1TO3:FORT=1TO3000:NEXTT:
5 CSAVE"I/O RECO":PRINTSV:NEXTSV:E
```

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AUSTRALIAN MiCo

```
ND
10 PRINT:PRINT"DO YOU WANT ME"
30 PRINT:PRINT"1. BELOW TOP RAM"
40 PRINT:PRINT"2. BELOW LAST M.L
. PROGRAM"
50 INPUTPN
60 IFPN=1THENPK=16976:GOTO80
70 PK=16927:GOTO95
80 GOSUB100:CLEAR25,X
85 PK=16976:GOSUB100
90 GOTO110
95 GOSUB100:CLEAR25,X:PK=16927:G
OSUB100:GOTO110
100 X=256*PEEK(PK)+PEEK(PK+1):X=
X-33:RETURN
110 FORZ=XTQX+32
120 READA
130 POKEZ,A:NEXTZ:CLS:PRINT"NOW
CLOAD YOUR BAD TAPE"
140 POKE17050,126
150 POKE17051,INT(X/256):POKE170
52,X-INT(X/256)*256
155 EXECX
160 DATA 54,134,151,177,66,178,3
9,2
170 DATA 50,57,193,34,38,250,60
180 DATA 206,225,176,166,0
190 DATA 189,249,198,8,140,225,1
82,38,245,56,126,253,128
```

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```

190 IFX<CTHENC=C-1
200 IFX>CTHENC=C+1
210 IFY<DTHEND=D-A2
220 IFY>DTHEND=D+A2
230 IFX<2THENX=61
240 IFX>61THENX=2
250 IFY<2THENY=29
260 IFY>29THENY=2
270 IFA<2THENA=61
280 IFA>61THENA=2
290 IFB<2THENB=29
300 IFB>29THENB=2
310 IFC<2THENC=61
320 IFC>61THENC=2
330 IFD<2THEND=29
340 IFD>29THEND=2
350 SC=SC+10:SD=SD+1:IFSD>=500TH
ENGOSUB820
360 SM=SM+1:IFSM>=100THENGOSUB86
0
370 IFG=10THENGOSUB510
380 IFNV+500<SCTHENNV=0:B2=1
390 K#=STR$(SC):K=LEN(K#)-1:FORV
=16870TO16870+K:J#=MID$(K#,V-168
69,1):J=ASC(J#):POKEV,J:NEXTV
400 IFPOINT(X,Y)=3THENGOSUB910
410 SET(X,Y,1):SET(A,B,8):SET(C,
D,8)
420 IFA=XANDB=YORC=XANDD=YTHENGO
TO610
490 GOTO100
500 REM
510 FORI=1TO10
520 RESET(X1(I),Y1(I)):RESET(A1(
I),B1(I)):RESET(C1(I),D1(I))
530 NEXTI
540 G=0:RETURN
550 REM CAPTURED
610 PRINT@230,"you";CHR$(128);"h
ave";CHR$(128);"been";CHR$(128);
"caught";
620 FORT=1TO3
630 FORU=100TO130STEP10:SOUNDU,1
:NEXT:FORU=130TO100STEP-10:SOUND
U,1:NEXT
640 NEXT
650 LV=LV-1
660 IFLV<=0THEN710
670 X=RND(59)+2:Y=RND(27)+2
680 G=G-1
690 GOTO60
700 REM END OF GAME
710 FORT=1TO475:NEXT
720 SOUND117,4:SOUND140,3:SOUND1
53,2:SOUND165,5:SOUND140,4
730 FORT=1TO1000:NEXT
740 CLS
750 IFSO>HITHENHI=SO:PRINT:PRINT
TAB(12)"WELL DONE!":PRINT"YOU H
AVE MADE A NEW HIGH SCORE.";
760 PRINT:PRINT" YOUR SCORE IS"
SO
770 PRINT:PRINT" WOULD YOU LIKE
ANOTHER GO (Y/N)";
780 A#=INKEY#:IFA#<>"Y"ANDA#<>"N
"THEN780
790 IFA#="Y"THEN30
800 CLS(9):END
810 REM BONUS LIFE
820 PRINT@20,"bonus";:PRINT@26,"
life";:SOUND220,3:SOUND234,2:LV=
LV+1:POKE16891,48+LV:SD=0:FORV=1
6404TO16414:POKEV,32:NEXTV
830 RETURN
850 REM DRAW CROSS
860 R1=RND(51)+4:R2=RND(20)+4:FO
RV=R1-1TOR1+1:SET(V,R2,3):SOUND1
50+V,1:NEXTV
870 SET(R1,R2-1,3):SET(R1,R2+1,3
):SM=0:RETURN
900 REM EXPLOSION
910 SET(X,Y,1)
920 FORZ1=X-1TOX+1:FORZ2=Y-1TOY+
1:SET(Z1,Z2,5):NEXTZ2,Z1
930 FORZ1=X-2TOX+2:FORZ2=Y-2TOY+
2:SET(Z1,Z2,5):NEXTZ2,Z1
940 FORZ1=Y-1TOY+1:SET(X-3,Z1,5)
:SET(X+3,Z1,5):NEXT:SOUND50,1:FO
RZ1=Y-1TOY+1:RESET(X-3,Z1):RESET
(X+3,Z1):NEXT
950 FORZ1=X-2TOX+2:FORZ2=Y-2TOY+
2:RESET(Z1,Z2):NEXTZ2,Z1
960 FORZ1=X-1TOX+1:FORZ2=Y-1TOY+
1:RESET(Z1,Z2):NEXTZ2,Z1
970 RESET(X,Y):SC=SC+1000:SD=SD+
100
980 NV=SC:B2=2
990 RETURN
1000 REM TITLE SCREEN
1010 CLS5
1020 FORT=0TO63:SET(T,0,3):SET(T
,31,3):SET(0,INT(T/2),3):SET(63,
INT(T/2),3):SET(T,10,3):SET(T,18
,3):NEXTT
1030 PRINT@201,,:FORT=1TO13:PRIN
TCHR$(201);:NEXT
1040 PRINT@233,CHR$(201);"worm";
CHR$(128);"chase ";CHR$(201);
1050 POKE16628,33:PRINT@265,,:FO
RT=1TO13:PRINTCHR$(201);:NEXT
1060 DATA 66,89,32,87,73,76,83,7
9,78,32,72,73,78,86,69,83,46
1070 PRINT@462,;
1080 READA:PRINTCHR$(A);:IFA=46T
HEN1100
1090 GOTO1080
1100 FORT=1TO1400:NEXTT:RETURN
1999 END

```

```

190 IFX<<CTHENC=C-1
200 IFX>>CTHENC=C+1
210 IFY<<DTHEND=D-A2
220 IFY>>DTHEND=D+A2
230 IFX<<2THENX=61
240 IFX>>61THENX=2
250 IFY<<2THENY=29
260 IFY>>29THENY=2
270 IFA<<2THENA=61
280 IFA>>61THENA=2
290 IFB<<2THENB=29
300 IFB>>29THENB=2
310 IFC<<2THENC=61
320 IFC>>61THENC=2
330 IFD<<2THEND=29
340 IFD>>29THEND=2
350 SC=SC+10:SD=SD+1:IFSD>=500TH
ENGOSUB820
360 SM=SM+1:IFSM>=100THENGOSUB86
0
370 IFG=10THENGOSUB510
380 IFNV+500<SCTHENNV=0:B2=1
390 K#=STR$(SC):K=LEN(K#)-1:FORV
=16870TO16870+K:J#=MID$(K#,V-168
69,1):J=ASC(J#):POKEV,J:NEXTV
400 IFPOINT(X,Y)=3THENGOSUB910
410 SET(X,Y,1):SET(A,B,8):SET(C,
D,8)
420 IFA=XANDB=YORC=XANDD=YTHENGO
TO610
490 GOTO100
500 REM
510 FORI=1TO10
520 RESET(X1(I),Y1(I)):RESET(A1(
I),B1(I)):RESET(C1(I),D1(I))
530 NEXTI
540 G=0:RETURN
600 REM CAPTURED
610 PRINT@230,"you";CHR$(128);"h
ave";CHR$(128);"been";CHR$(128);
"caught";
620 FORT=1TO3
630 FORU=100TO130STEP10:SOUNDU,1
:NEXT:FORU=130TO100STEP-10:SOUND
U,1:NEXT
640 NEXT
650 LV=LV-1
660 IFLV<=0THEN710
670 X=RND(59)+2:Y=RND(27)+2
680 G=G-1
690 GOTO60
700 REM END OF GAME
710 FORT=1TO475:NEXT
720 SOUND117,4:SOUND140,3:SOUND1
53,2:SOUND165,5:SOUND140,4
730 FORT=1TO1000:NEXT
740 CLS
750 IFSC>HITHENHI=SC:PRINT:PRINT
TAB(12)"WELL DONE!":PRINT" YOU H

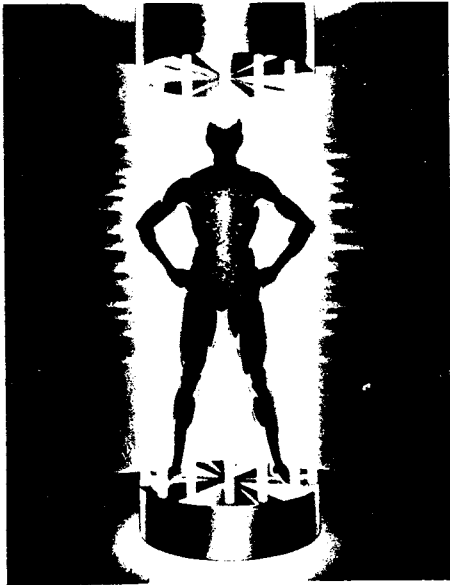
```

```

AVE MADE A NEW HIGH SCORE.";
760 PRINT:PRINT" YOUR SCORE IS"
SC
770 PRINT:PRINT" WOULD YOU LIKE
ANOTHER GO (Y/N)";
780 A#=INKEY#:IFA#<>"Y"ANDA#<>"N
"THEN780
790 IFA#="Y"THEN30
800 CLS(9):END
810 REM BONUS LIFE
820 PRINT@20,"bonus";:PRINT@26,"
life";:SOUND220,3:SOUND234,2:LV=
LV+1:POKE16891,48+LV:SD=0:FORV=1
6404TO16414:POKEV,32:NEXTV
830 RETURN
850 REM DRAW CROSS
860 R1=RND(51)+4:R2=RND(20)+4:FO
RV=R1-1TOR1+1:SET(V,R2,3):SOUND1
50+V,1:NEXTV
870 SET(R1,R2-1,3):SET(R1,R2+1,3
):SM=0:RETURN
900 REM EXPLOSION
910 SET(X,Y,1)
920 FORZ1=X-1TOX+1:FORZ2=Y-1TOY+
1:SET(Z1,Z2,5):NEXTZ2,Z1
930 FORZ1=X-2TOX+2:FORZ2=Y-2TOY+
2:SET(Z1,Z2,5):NEXTZ2,Z1
940 FORZ1=Y-1TOY+1:SET(X-3,Z1,5)
:SET(X+3,Z1,5):NEXT:SOUND50,1:FO
RZ1=Y-1TOY+1:RESET(X-3,Z1):RESET
(X+3,Z1):NEXT
950 FORZ1=X-2TOX+2:FORZ2=Y-2TOY+
2:RESET(Z1,Z2):NEXTZ2,Z1
960 FORZ1=X-1TOX+1:FORZ2=Y-1TOY+
1:RESET(Z1,Z2):NEXTZ2,Z1
970 RESET(X,Y):SC=SC+1000:SD=SD+
100
980 NV=SC:B2=2
990 RETURN
1000 REM TITLE SCREEN
1010 CLS5
1020 FORT=0TO63:SET(T,0,3):SET(T
,31,3):SET(0,INT(T/2),3):SET(63,
INT(T/2),3):SET(T,10,3):SET(T,18
,3):NEXTT
1030 PRINT@201,,:FORT=1TO13:PRIN
TCHR$(201);:NEXT
1040 PRINT@233,CHR$(201);"worm";
CHR$(128);"chase ";CHR$(201);
1050 POKE16628,33:PRINT@265,,:FO
RT=1TO13:PRINTCHR$(201);:NEXT
1060 DATA 66,89,32,87,73,76,83,7
9,78,32,72,73,78,86,69,83,46
1070 PRINT@462,;
1080 READA:PRINTCHR$(A);:IFA=46T
HEN1100
1090 GOTO1080
1100 FORT=1TO1400:NEXTT:RETURN
1999 END

```

# STAR TREK - II



by Wilson Hines

Startrek-II is a sort of space adventure game. You are flying endlessly around in space fighting the Klingons to the death.

When the program is RUN a title screen will be drawn, followed by a screen displaying your seven, move options. Your choices are to: fire phasers, fire photon torpedoes, change direction and speed, Status Report and of course SELF DESTRUCT.

You are aiming to destroy Klingons before they destroy you. To find out all you need to know about both you and the enemy select option 3 for the status report.

How do you shoot them down?? That is up to you to find out!!

The Listing:

```

1 GOTO10
2 FORSV=1T03:PRINTSV
3 CSAVE"STARTREK":SOUND255,25:NE
XTSV
10 REM :::::::::::::::::::::
: STARTREK II :
: ----- :
20 REM : BY WILSON HINES :
: COPYRIGHT (C)JAN 1985 :
: 062-589024 :
30 REM :::::::::::::::::::::
90 CLEAR1000:GOSUB2000
100 K1=3.1415927/180
110 Q1=3:Q2=3:D=100000:P1=100:P2
=100:I1=100
120 A1=INT(180*RND(0))-90:A2=-(1
80-A1)
130 I2=100:L1=100:L2=100:S1=100:
S2=100:W1=100:W2=100
140 REM
150 FORZX=1T06:PRINT:NEXTZX:PRIN
T"_____o_p_t_i_l_o_n_s_____

```

```

"_:FORZX=1T032:PRINTCHR$(223);
:NEXTZX
155 B#=CHR$(223):PRINTB#;" 1 - F
IRE PHASERS " ;B#;
160 PRINTB#;" 2 - FIRE PHOTON PH
ASERS " ;B#;
165 PRINTB#;" 3 - STATUS REPORT
" ;B#;
170 PRINTB#;" 4 - CHANGE MOVEMEN
T " ;B#;
175 PRINTB#;" 5 - SELF DESTRUCT
" ;B#;
177 PRINTB#;" (NOT R
ECOMENDED) " ;B#;
180 FORZX=1T032:PRINTB#;:NEXTZX:
INPUT" WHAT IS YOUR OPTION";09
185 PRINT:PRINT:PRINT
190 ON 09GOTO220,310,460,570,600
200 IF09=0THENFORZX=1T06:PRINT:N
EXTZX:GOTO150
210 IFA<1THEN180
215 ON AGOTO220,310,460
220 GOSUB1060:IFABS(A-A1)>10 THE
N360
225 IFD>150000THEN420
230 C=RND(3):H1=2*INT((150000-D)
/30000)
240 ON CGOTO250,260,270
250 PRINT" PHASERS SCORE A DIREC
T HIT!!! GOOD SHOOTING!":GOTO6
20
260 PRINT" CHECKOV REPORTS A DIR
ECT HIT BY PHASERS!":GOTO620
270 C=RND(3):ON CGOTO280,290,300
280 PRINT" MR. SULU REPORTS DIRE
CT HIT!!!":GOTO620
290 PRINT" | | | | | DIRECT HIT ■
■ ■ ■ ■":GOTO620
300 PRINT" SPOCK REPORTS DIRECT
HIT ON KLINGON SHIP!!!":GOTO
620
310 GOSUB1060:IFABS(A-A1)>25THEN
440
315 IFD>300000THEN430
320 C=RND(3):H1=INT((300000-D)/5
0000)
330 ON CGOTO340,350,270
340 PRINT" PHOTON TORPEDOES SCOR
E DIRECT HIT!":GOTO620
350 PRINT" SULU REPORTS DIRECT H
IT BY PHOTON TORPEDOES."
:GOTO620
360 C=RND(2):H1=0:ON CGOTO370,38
0
370 PRINT" CHECKOV REPORTS CLEAN
MISS BY PHASERS!":GOTO620
380 C=RND(5):ON CGOTO390,410,400
,420,430
390 PRINT" YOUR SHOT IS WIDE!":G

```

```

0T0620
400 PRINT" SPOCK REPORTS A CLEAN
MISS,":PRINT" SPOCK SAYS HE IS
BETTER.":GOTO620
410 PRINT" SULU REPORTS A MISS."
:GOTO620
420 PRINT" YOU ARE OUT OF PHASER
RANGE -DUMMY-":GOTO620
430 PRINT" YOU ARE OUT OF PHOTON
TORPEDO RANGE -DOPY-":GOTO620
440 C=RND(3):H1=0:IFC=1THEN450
445 GOTO380
450 PRINT" CHECKOV REPORTS A MIS
S BY PHOTON TORPEDOES!":GO
T0620
460 CLS0:FORZ1=1TO9:PRINTCHR$(18
2);:NEXT:PRINT"status";CHR$(128)
;"report";:FORZ1=1TO10:PRINTCHR$(
185);:NEXT
470 PRINT"64," ENTERPRI
SE KLINGONS"
480 PRINT" WARPS-"TAB(10)Q1TAB(2
2)Q2
490 PRINT" ANGLE-"TAB(10)A1TAB(2
2)A2
500 PRINT" TURN-"TAB(10)A3TAB(22
)A4
510 PRINT" SUPPORT-"TAB(10)L1"%
TAB(22)L2"%
520 PRINT" DRIVE-"TAB(10)P1"%TA
B(22)P2"%
530 PRINT" IMPULSE-"TAB(10)I1"%
TAB(22)I2"%
540 PRINT" SHIELDS-"TAB(10)S1"%
TAB(22)S2"%
550 PRINT" WEAPONRY-"TAB(10)W1"%
TAB(22)W2"%
555 FORZX=2TO27:RESET(40,ZX):NEX
TZX
560 FORZX=1TO32:PRINTCHR$(128);:
NEXTZX:FORJK=0TO0:JK=INKEY$="":N
EXTJK:PRINT:PRINT" MR. SPOCK REP
ORTS KLINGONS AT"D"K.M.":GO
T0620
570 INPUT" WHAT ANGLE DO WANT TO
TURN":A3:IFW2<ABS(A3)THEN570
580 INPUT" WHAT WARP FACTOR DO Y
OU WANT TO MOVE TO":Q1
590 IFQ1>INT(W1/10)THEN580
595 GOTO620
600 IFD<50000THEN610
605 PRINT" KLINGONS TOO FAR AWAY
!!!":GOTO990
610 PRINT" KLINGONS ARE DESTROYE
D- BUT SO ARE YOU!":GOTO
1100
620 PRINT:C=RND(4):ON CGOTO640,7
40,780,800
640 PRINT" ■■■■WARNING■■■■ KLING

```

```

ONS HAVE FIRED PHASERS!"
650 IFD>200000THEN710
655 IFRND(0)>.6THEN710
660 C=RND(100):IFC>W2THEN710
665 H2=INT(2*(150000-D)/30000)
670 C=RND(3):ON CGOTO680,690,700
680 PRINT" ■■■■ DIRECT HIT ■
■■■■":GOTO820
690 PRINT" SPOCK REPORT YOU HAVE
SUFFER FROM A DIRECT HIT!":G
OTO820
700 PRINT" SULU REPORTS A HIT ON
THE ENTERPRISE!":GOTO820
710 C=RND(2):H2=0:ON CGOTO720,73
0
720 PRINT" CHECKOV REPORTS A MIS
S.":GOTO820
730 PRINT" SENSORS SHOW THAT KLI
NGONS SHOT WIDE!":GOTO820
740 PRINT" ■■■■WARNING■■■■ KLING
ONS HAVE FIRED PHOTON TORPEDOE
S"
750 IFD>300000THEN710
755 IFRND(0)>.85THEN710
760 C=RND(100):IFC>W2THEN710
765 H2=INT((300000-D)/50000)
770 GOTO670
780 A4=INT((P2/2)*RND(0)-P2/4):
Q2=INT((P2/10)*RND(0))
790 PRINT" CHECKOV REPORTS KLING
ONS HAVE CHANGED DIRECTION.":G
OTO820
800 IFP2>30THEN620
805 PRINT" KLINGONS HAVE SELF DE
STRUCTED!"
■■■■";
810 IFD>50000THEN1010
815 PRINT" YOU ARE ALSO DESTRO
YED!!"
■■■■":GOTO1100
820 A1=A1+A3+A4:Q=Q1:GOSUB1070:A
1=Q:A2=A2+A3+A4:Q=Q2:GOSUB1070
830 A2=Q:X=SQR(D^2+(Q2*5000)^2-(
2*D*Q2*5000*COS(ABS(A2)*K1)))
840 Y=SQR(D^2+(Q1*5000)^2-(2*D*Q
1*5000*COS(ABS(A2)*K1)))
850 D=INT((X+Y)/2)+15000:H1=H1*3
:H2=H2*3:S1=S1-H2:S2=S2-H1
860 P1=P1-H2/3:P2=P2-H1/3:W1=W1-
H2/3:W2=W2-H1/3
870 IFS1<0THEN880
873 IFS2<0THEN900
877 GOTO920
880 PRINT" MR. SPOCK REPORTS SHI
ELDS ARE OUT!"
890 K4=1:W1=W1+S1:P1=P1+S1:I1=I1
+S1:L1=L1+S1:S1=0:GOTO950
900 P2=P2+S2:W2=W2+S2:L2=L2+S2:I
2=I2+S2:S2=0

```



```

910 PRINT" CHECKOV REPORTS KLING
ON      SHIELDS ARE OUT!":GOT
0950
920 IFS1<25THEN930
923 IFS2<25THEN940
927 GOT0950
930 PRINT" SCOTTY REPORTS NUMBER
S 4 & 6  SHIELDS HAVE BUCKLED!
":GOT0950
940 PRINT" SENSORS SHOW THAT KLI
NGONS  SHIELDS ARE WEAK!"
950 H1=0:H2=0:IFL1<10 THEN960
953 IFL2<10 THEN1010
957 GOT01030
960 C=RND(3):ON CGOT0970,980,990
970 PRINT" YOU HAVE BEEN DESTROY
ED.      KLINGONS TAKE OVER!":
GOT01100
980 PRINT" YOU HAVE BLOWN UP TO
PEICES,  YOU HAVE LOST!":GOT01
100
990 PRINT" YOU LOSE.
      MR. SCOTT, SULU, CHEC
KOV, SPOCK AND UHURA REPORT THAT
YOU ARE  AN IDIOT!!":GOT01100
1000 REM
1010 PRINT" KLINGONS ARE DEAD, Y
OU HAVE  SAVED EARTH AND THE
GALAXY!":GOT01100
1020 PRINT" SULU REPORTS KLINGON
S ARE DEAD! YOU WIN!":GOT01100
1030 IFL1<50THEN1040
1033 IFL2<50THEN1050
1037 GOT0180
1040 PRINT" LT. UHURA REPORTS LI
FE SUPPORT IS FAILING!":GOT0180
1050 PRINT" SENSORS SHOW KLINGON
S ARE    ALMOST OUT OF POWER!
!":GOT0180
1060 INPUT" WHAT ANGLE DO YOU WA
NT TO    SHOOT AT":A:RETURN
1070 IFA<-180THEN1080
1073 IFQ>180THEN1090
1077 RETURN
1080 A=A+360:GOT01070
1090 Q=Q-360:GOT01070
1100 REM
1110 FORK=1T06:PRINT:NEXTK:PRINT
"PRESS A KEY":FORJ=0T00:J=INKEY#
="":NEXTJ:B#="":FORK=1T016:B#=B#
+CHR$(239)+CHR$(255):NEXTK
1120 CLS0:FORJ=1T015:PRINTB#:;NE
XTJ
1130 POKE49151,66:PRINT@230,"wou
ld";:PRINT@236,"you";:PRINT@240,
"like";
1140 PRINT@262,"another";:PRINT@
270,"go";
1150 PRINT@294,"y";:PRINT@296,"o

```

```

r";:PRINT@299,"n";
1160 A#=INKEY#:IFA#="Y"THENPOKE4
9151,0:CLS:GOT0100
1170 IFA#="N"THENPOKE49151,0:CLS
:END
1180 GOT01160
1999 END
2000 REM TITLE SCREEN
2010 CLS0
2020 FORX=16384T016415:POKEX,32:
POKEX+480,32:NEXTX
2030 FORX=16384T016895STEP32:POK
EX,32:POKEX+31,32:NEXTX
2040 FORX=10T023:SET(X,5,5):NEXT
2045 PRINT@10,"startrek";:PRINT@
19,"ii";
2050 FORX=3T030:SET(X,6,5):NEXT
2060 V=1:FORY=7T011
2070 FORX=11T020:SET(X+V,Y,5):NE
XT
2080 V=V+2:NEXT
2090 FORX=38T058:SET(X,5,5):NEXT
2100 FORX=36T058:SET(X,6,5):NEXT
2110 V=-1:FORY=7T011
2120 FORX=50T047STEP-1:SET(X+V,Y
,5):NEXT
2130 V=V-1:NEXT
2140 FORX=19T045:SET(X,12,5):NEX
T
2150 FORX=18T048:SET(X,13,5):NEX
T
2160 FORX=18T047:SET(X,14,5):NEX
T
2170 FORX=18T046:SET(X,15,5):NEX
T
2180 FORX=19T044:SET(X,16,5):NEX
T
2190 FORX=20T044STEP2:RESET(X,14
):NEXT
2200 SET(59,5,4):SET(59,6,4)
2210 V=8
2220 FORY=23T029
2230 FORX=31-UT031+V
2231 R=RND(3):IFR=2THENR=3
2232 SET(X,Y,R)
2233 NEXTX
2240 V=V+29-Y
2250 NEXTY
2260 PRINT@480,"press";:PRINT@48
6,"a";:PRINT@488,"key";
2270 FORX=1T0200:IFINKEY#<>"THE
NCLS:RETURN
2275 NEXT
2280 FORX=16663T016885:POKEX,32:
NEXT
2290 FORX=1T0200:IFINKEY#<>"THE
NCLS:RETURN
2295 NEXT
2300 GOT02260

```

# LITTLE r

by Graham Pollock

'Little-r' is a machine language program which allows you to renumber your BASIC programs.

It is based on Mike Turk's RENUMBER which is a BASIC program. RENUMBER needs to be merged or appended onto your BASIC program in order to use it. 'LITTLE-R', on the other hand, goes into high RAM and can be used on any program which is CLOADED into BASIC memory.

'LITTLE-R' is activated by r<ENTER> and is VERY VERY fast. Make sure that you tripleCSAVE'LITTLE-R' before you try it out by entering RUN3.

In the MC-10 there are 2 error return extension vectors in RAM where you can redirect the flow of the computer. Little-r uses the first, so I've used the second to avoid problems. In fact, any number of new commands may be introduced into the MC-10 by using this location-17050(\$429A) to redirect the flow due to syntax error.

LITTLE-R is self-locating and you can choose to have it below top RAM or below another m.l. program such as LITTLE-E or TRILIST(available from S.POLLOCK,24 KENT ST, MINTO, 2566). As long as the first program has been EXECuted at it's start address.

Once the program is RUN you are also told the EXEC address to use as an alternative if you want to use the second return error extension vector for some other program such as SUPERLOAD.

NOTE: -you must RUN LITTLE-R first and then RUN SUPERLOAD if you want to use them both at once.

have fun!!!!

BYE FOR NOW!!

## The Listing:

```
1 CLS:PRINT"LITTLE-R BY G.POLLOCK"
2 GOTO10
3 FORSV=1TO3:FOR T=1TO3000:NEXTT:
  CSAVE"LITTLE-R":PRINTSV:NEXTSV:END
10 PRINT:PRINT"DO YOU WANT ME"
30 PRINT:PRINT"1. BELOW TOP RAM"
40 PRINT:PRINT"2. BELOW LAST M.L
  PROGRAM"
50 INPUTPK
```

```
60 IFPK=1THENPK=16976:GOTO80
70 PK=16927:GOTO95
80 GOSUB100:CLEAR25,X
85 PK=16976:GOSUB100
90 GOTO110
95 GOSUB100:CLEAR25,X:PK=16927:G
  OSUB100:GOTO110
100 X=256*PEEK(PK)+PEEK(PK+1):X=
  X-47:RETURN
110 FORZ=XTOX+46
120 READA
130 POKEZ,A:NEXTZ:CLS:PRINT"r<EN
  TER> OR EXEC";X+10
135 PRINT"TO RENUMBER"
140 POKE17050,126
150 POKE17051,INT(X/256):POKE170
  52,X-INT(X/256)*256
155 EXECX
160 DATA 54,134,114,177,66,178,3
  9,2
170 DATA 50,57,206,67,70
180 DATA 204,0
190 DATA 10
200 DATA 8,8,237,0,9,9,238,0,195
  ,0
210 DATA 10
220 DATA 60,238,0,140,0,0,39,3,5
  6,32,234
240 DATA 134,255,183,66,28,79,12
  6,228,13
```

## The CoCoConnection

Connect your CoCo to the outside world.

Control Robots, Models, alarms, lighting systems, solar panels for water or electrical generation, or create your own special use.

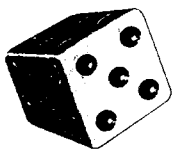
Mark 1 is available now and has been reconfigured to give 32 input / output connections.

CoCoConnection comes complete with a driver program and instructions, and will be fully supported in Australian Rainbow with articles and projects. Its easy!

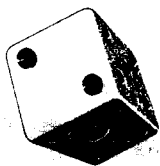
PRICE MARK 1  
\$185.00

AVAILABLE FROM  
AUSTRALIAN RAINBOW  
BLAXLAND COMPUTER CENTRE

Please allow 3 weeks for delivery



# 21 DICE



by Jim Rogers

Another dice game. A version of Blackjack or 21 or Pontoon? As in those games, if you roll over 21 you bust.

Each game consists of 5 rounds. You throw first and try to throw 21 or under by pressing B to throw and S to sit. The computer will roll his dice to try and beat you. (Maybe his dice are loaded, but then again maybe they're not?)

Enjoy!!

## The Listing:

```

10 REM ***21 DICE***
20 REM *****ADAPTED FOR MC10***
***
30 REM ***BY JIM ROGERS***
40 CLS1
45 PRINT"PRESS <B> TO BUY,<S> TO
SIT
47 D$=INKEY$
50 X$="." :X=480:FOR TY =1 TO X:P
RINTX$;:NEXT
140 YS=0:MS=0
150 Y=0:M=0:N=0
170 PRINT"PRESS <B> TO BUY,<S> T
O SIT"
180 D$=INKEY$:D$=INKEY$
190 A$=INKEY$:IFA$=""THEN190
200 IF A$="S" THEN CLS:PRINT"YOU
R POINTS ARE"M:GOTO 300
220 GOSUB 540
230 B=RND(6)
240 PRINT"YOU DREW A*B
250 Y=Y+B
260 PRINT"WHICH MAKES YOUR SCORE
"Y
270 GOSUB 540
280 PRINT:GOTO 170
290 IF M>Y AND M<22 OR M>21 OR Y
=21 AND M=21 THEN 370
300 B=RND(6)
310 GOSUB 540

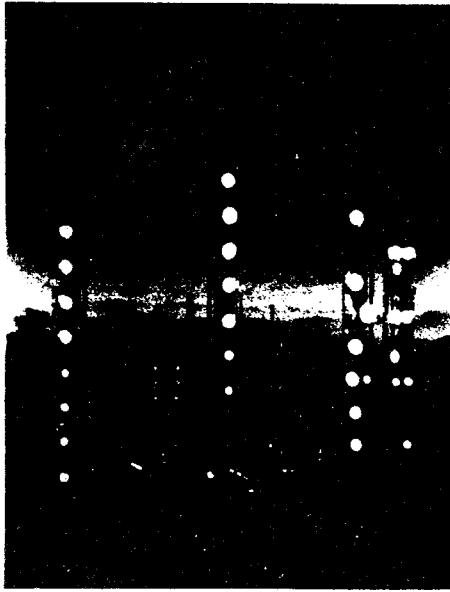
```

```

320 PRINT:PRINT"I THREW A*B
330 M=M+B
340 PRINT"MY SCORE IS"M
350 GOSUB 540
360 GOTO 290
370 IF Y=M OR Y>21 AND M>31 THEN
430
380 GOSUB 620
390 IF(M<Y OR M>31)AND Y<22 THEN
PRINT"I";:MS=MS+1
400 IF(M<Y OR M>21)AND Y<22 THEN
PRINT,"YOU";:YS=YS+1
410 PRINT" WIN!!"
420 GOTO440
430 PRINT"WE ARE EVEN--NO","SCOR
E THIS ROUND"
440 GOSUB 450
450 GOSUB 620
460 PRINT"THE SCORE NOW IS"
470 GOSUB 540
480 PRINTTAB(7);"YOU:"YS",AND ME
"MS
490 GOSUB 620
500 IF MS+YS=5 THEN 560
510 PRINT:PRINT" NEXT PLAY...
."
520 GOSUB 540:GOSUB 540
530 CLS:GOTO 150
540 FOR O=1 TO 500:NEXT O
550 RETURN
560 PRINT:PRINT"THE GAME IS OVER
."
570 PRINT:PRINT"YOUR SCORES ARE:
."
580 PRINT,"YOU:"YS
590 PRINT,"ME:"MS:PRINT
600 IF MS>YS THEN PRINT"THE MIND
IS GREATER THEN THE MACHINE!"
610 GOSUB 540:PRINT"00000000000"
:PRINT
615 GOSUB 540:GOSUB540:GOSUB540:
GOSUB540:END
620 RETURN
5 REM ****THREE UP****
10 REM*****ADAPTED FOR MC10*****
20 REM*****BY JIM ROGERS*****
30 CLS
40 M=50
50 GOSUB 450
60 GOSUB 470
70 PRINT236,"WELCOME TO THE CASI
NO"
80 PRINT236,"PLACE YOUR BETS....
."
90 GOSUB 470
100 PRINT"ENTER'A'TO BET UNDER 7
."
110 PRINT" 'B'TO BET ON 7,OR
."
120 PRINT" 'C'TO BET OVER 7"
130 A$=INKEY$
140 IF A$(">"A" AND A$(">"B" AND A
$(">"C"THEN 130
150 PRINT:PRINT "THE ODDS ARE:"
160 PRINT "A - PAYS EVEN"
170 PRINT "B - PAYS 4 TO 1"
180 PRINT "C - PAYS EVEN"
190 GOSUB470
200 INPUT"HOW MUCH WOULD YOU LIK
E TO BET";A
210 GOSUB 470
220 IF A<M THEN PRINT"YOU ARE A
BIT LIGHT ON FOR THAT BET,SPORT!
":PRINT:GOTO200
230 B=RND(6)
240 PRINTTAB(7),"FIRST NUMBER"B
250 GOSUB 470
260 C=RND(6)
270 PRINTTAB(7);"SECOND NUMBER"C
280 D=C+B
290 GOSUB 470
300 PRINT"TOTAL IS"D
310 W=A
320 IFD=7 AND A$="B"THENW=4*A
330 IFD<7 AND A$="A" THEN W=A
340 IF D>7 AND A$="C" THEN W=A
350 M=M+W
360 GOSUB 470
370 IF W>0 THENPRINT"YOU WIN $"W
:FOR T=1 TO 1000:NEXT:GOSUB 530
380 IF W<0 THENPRINT"YOU HAVE JU
ST LOST $*(W*-1):FOR T=1 TO 1000
:NEXT:CLS
390 GOSUB 470
400 GOSUB 450
410 GOSUB 470
420 IF M<1 THEN 500:CLS
430 CLS
440 GOTO 50
450 PRINT299,"YOU HAVEA TOTAL OF
$"M
460 RETURN
470 FOR P=1 TO 1000:NEXTP
480 PRINT:PRINT
490 RETURN
500 PRINT"YOU'RE BROKE":SOUND 3,
9
510 PRINT"YOU ARE ASKED TO LEAVE
THE PREMISES":SOUND 2,7
520 PRINT"COME AGAIN WHEN YOU GE
T PAIT NEXT WEEK":SOUND 1,5
525 END
530 SOUND 21,4
550 FOR I=0 TO 31:PRINT21,CHR$(1
55);:NEXT
560 RETURN

```

# MICRO BASE



by Graham Pollock

MICROBASE is a Database program for the 20K MC-10. It allows you to use your computer as a super-efficient filing system. You can file cards, edit them and search for a word or part of a word on any card as well as the other features.

With MICROBASE you can "tailor make" your own filing system as long as you use 10 headings or less on each card. You're not restricted by set headings. Each filing system is stored along with it's cards as a m.l. file, so that you can load and use different filing systems, one after the other.

Microbase should NOT be RUN with any other utility (such as LITTLE-E) in memory because you'll get an OS error.

Microbase has 2 menus—a main menu and a card menu. The main menu allows you to set up a new system, load files, save files, flick through files, search, insert a card, print the entire system, or retrieve stored files.

The card menu will allow you to flick backwards(<a), flick forwards(>s), stop at that card(pAUSE), print out that card(hARDCOPY), alter that card(eDIT), return to the main menu(mENU), remove that card(dELETE), or continue searching(cONTINUE).

To set up your own filing system you simply choose option 1 from the main menu and answer the questions. The "main heading" that you are asked for is the heading that will contain the card entry to be alphanumerically sorted(do you like that one?).

Once the parameters for your system have been set, you

will be returned to the main menu. From there, you should choose option 6 to insert your first card into the system.(Isn't this exciting?). You then need to enter your information under each heading. When that card is complete, you will be shown the card with the card menu at the top of the screen. You should now press "M" to return to the main menu and insert a new card. Each new card is inserted in it's correct place according to the info. under heading 0 (the main heading).

When you have finished inserting all your cards, you should flick through them, controlling the flicking with the keys A(<), S(>), and P(pause). If you find a mistake, you can edit the card by pressing E when the card is displayed. In edit mode, you need to enter the correct information for the desired heading.

The next stage is to save the system and file cards to tape. This is done from the main menu and the file is CSAVED under the system name.

Once this is done, you can load and update the filing system at any time. Searching for a word, or part of a word within the filing system is simple and fast. You can ask the computer to search through all the entries for an individual heading or through the entire system. Once the card is found it is displayed. Pressing C will allow the search to continue for other cards with the same string in them.

I've made up a system of files with some names and addresses on it for you to play with. If you get this program on tape, it should have "ADDRESS" as an m.l. file straight after it. If not, you could set up the system from the printout supplied.

If you have to BREAK and SKIPF to find a spot on the tape, then you should reenter the program with GOO1<ENTER>. If you RUN the program then the files will be cleared. If you forget(like I do), then you may be able to retrieve the files using option 8 from the main menu. This will work if:-

- 1.you have loaded the files originally.
- 2.you have saved the files.

In both cases, the files will be safely stored as m.l. in addresses above 31000.

Of course you could always reload the files from tape but it's easier to use the retrieve option.

If you think of an additional feature that you think should be added then let me know.

Bye for now!

GRAHAME POLLOCK,  
24 KENT ST,  
MINTO,N.S.W.,2566.  
AUST.

The Listing:

```

0 CLS: CLEAR2500,31000: DIMA$(10,1
00): DL=500: MC=100
1 CLS: PRINT "MICROBASE-BY GRAHAME
POLLOCK JULY '85"
2 GOTO10
3 FORSV=1TO3: FORT=1TO3000: NEXTT:
CSAVE "MCBASE": PRINTSV: NEXTSV: END
10 PRINT: PRINT "CHOOSE": PRINT
15 DL=500: MC=100
20 PRINT "1.SET UP NEW SYSTEM"
30 PRINT "2.LOAD SYSTEM FILES"
40 PRINT "3.SAVE SYSTEM FILES"
50 PRINT "4.FLICK THROUGH FILES"
60 PRINT "5.SEARCH"
70 PRINT "6.INSERT NEW CARD"
80 PRINT "7.PRINT ENTIRE SYSTEM"
85 PRINT "8.RETRIEVE STORED FILES
"
90 GOSUB4800
100 N=VAL(I$)
110 ON N GOTO1000,2000,3000,4000
,5000,6000,7000,8000
1000 REM SET UP
1005 CLS: CLEAR2500,31000: DIMA$(1
0,100): DL=500: MC=100
1010 CLS: INPUT "SYSTEM NAME": NM$
1015 PRINT "MAIN HEADING ": GOSUB
1500: A$(0,0)=IK$
1020 INPUT "HOW MANY OTHER HEADIN
GS": NH
1030 FORI=1TONH
1040 PRINT "HEADING#": I: GOSUB150
0: A$(I,0)=IK$
1050 NEXTI
1060 GOTO1
1500 IK$="": PRINTCHR$(128):
1510 GOSUB4800
1520 IFI$=CHR$(13) THENPRINTCHR$(
8): RETURN
1530 PRINTCHR$(8): I$: CHR$(128):
1540 IFI$=CHR$(8) THEN1560
1550 IK$=IK$+I$: GOTO1510
1560 IFIK$="" THEN1510
1570 IK$=LEFT$(IK$,LEN(IK$)-1): G
OTO1510
2000 REM CLOADM
2010 CLS: CLEAR2500,31000: DIMA$(1
0,100): DL=500: MC=100
2020 INPUT "FILENAME": FN$
2030 PRINT "PRESS PLAY ON TAPE"
2040 CLOADM FN$
2050 SOUND100,2
2060 CLS: PRINT "SORTING FILES"
2070 M=31000
2075 M=M+1
2080 M=M+1: IFPEEK(M)=0 THEN2110
2090 NM$=NM$+CHR$(PEEK(M))
2100 GOTO2080
2110 M=M+1: NH=PEEK(M)
2115 M=M+1
2120 FORJ=0TOMC
2130 FORI=0TONH
2140 M=M+1: IFPEEK(M)=0 THEN2165
2150 A$(I,J)=A$(I,J)+CHR$(PEEK(M
))
2155 PRINT@32,J
2160 GOTO2140
2165 IFPEEK(M+1)=0 THENHC=J: GOTO1
2170 NEXTI
2180 NEXTJ
3000 REM CSAVE
3010 CLS: PRINT "PLEASE WAIT"
3020 M=31000
3030 M=M+1
3040 FORI=1TOLEN(NM$)
3050 M=M+1: L$=MID$(NM$,I,1)
3060 POKEM,ASC(L$)
3070 NEXTI
3080 GOSUB3999
3090 M=M+1: POKEM,NH
3100 GOSUB3999
3110 FORJ=0TOHC
3112 PRINT@32,J
3115 IFA$(0,J)=" " THEN3180
3117 FORI=0TONH
3118 IFA$(I,J)=" " THENA$(I,J)=" "
3120 FORK=1TOLEN(A$(I,J))
3140 M=M+1: L$=MID$(A$(I,J),K,1)
3150 POKEM,ASC(L$)
3160 NEXTK: GOSUB3999
3170 NEXTI: NEXTJ
3180 GOSUB3999: GOSUB3999
3190 SOUND200,3
3210 M=M+1
3220 POKE17004,121: POKE17005,24
3230 POKE17007,121: POKE17008,24
3240 POKE17009,INT(M/256): POKE17
010,M-INT(M/256)*256
3250 POKE17002,0: POKE17003,0: POK
E16999,2
3270 PRINT "PRESS RECORD AND ANY
KEY"
3280 GOSUB4800
3290 EXEC64603 NM$
3300 SOUND100,2
3310 INPUT "SAVE AGAIN(Y/N)": SA$
3320 IFSAS="N" THEN1
3330 GOTO3290
3999 M=M+1: POKEM,0: RETURN
4000 REM FLICK THROUGH
4010 J=1: DL=500: FL=1
4020 GOSUB4500: FORT=1TODL: NEXTT:
GOSUB4030: GOTO4060
4030 I$=INKEY$

```

```

4035 IFI#="P" THEN GOSUB 4800
4036 IFI#="M" THEN 1
4040 IFI#="S" THEN FL=1:GOTO 4080
4050 IFI#="A" THEN FL=-1:GOTO 4080
4052 IFI#="H" THEN GOSUB 4600:GOSUB
4800
4054 IFI#="E" THEN 4700
4056 IFI#="D" THEN 4900
4058 RETURN
4060 REM
4080 J=J+FL:IF J>M THEN J=1
4090 IF J<1 THEN J=M
4100 GOTO 4020
4500 REM SCREEN DISPLAY
4510 CLS:PRINT@64,NM#;" :CARD";J
4520 PRINT
4530 FOR I=0 TO NH
4540 PRINT I;A$(I,0);":":A$(I,J)
4550 NEXT I
4560 PRINT@0,"<a:s>:PAUSE:HARDCO
PY:EDIT:MENU:DELETE:CONTINUE"
4570 RETURN
4600 REM HARDCOPY
4610 LPRINT NM#;" :CARD";J
4620 LPRINT
4630 FOR I=0 TO NH
4640 LPRINT I;A$(I,0);":":A$(I,J)
4650 NEXT I
4655 LPRINT "-----"
-----"
4660 RETURN
4700 REM EDIT
4705 PRINT@0,:PRINT:PRINT
4710 PRINT@0,:INPUT"WHICH HEADIN
G NUMBER";I
4715 IF I<1 THEN 4710
4720 PRINT I;A$(I,0);":":;
4730 GOSUB 1500:A$(I,J)=IK#
4740 GOSUB 4500:GOSUB 5120:GOTO 474
0
4800 I#=INKEY#:IFI#="" THEN 4800
4810 RETURN
4900 REM DELETE
4905 PRINT@0,:PRINT:PRINT
4910 PRINT@0,"DO YOU WANT TO DEL
ETE THIS CARD (Y/N)"
4920 GOSUB 4800
4930 IF I#="Y" THEN 4950
4940 GOSUB 4560:GOTO 4800
4950 FORMV=J+1 TO HC
4960 FOR I=0 TO NH
4970 A$(I,MV-1)=A$(I,MV)
4980 NEXT I:NEXT MV
4985 FOR I=0 TO NH:A$(I,HC)="" :NEXT
I
4990 HC=HC-1:GOTO 4940
5000 REM SEARCH
5002 CLS:PRINT:PRINT NM#
5004 FOR I=0 TO NH:PRINT I;A$(I,0);N
EXT I
5006 PRINT NH+1;"ENTIRE SYSTEM"
5010 PRINT@0,"WHICH HEADING NUMB
ER";:INPUT I
5015 II=I
5020 INPUT"SEARCH FOR WHAT";SH#
5025 IF I=NH+1 THEN 5200
5027 GOSUB 5030:GOTO 1
5030 FOR J=1 TO HC:PRINT@0,J
5035 I=II
5040 IF LEN(SH#)>LEN(A$(I,J)) THEN
5080
5050 FOR K=1 TO LEN(A$(I,J))-LEN(SH
#)+1
5060 IF MID$(A$(I,J),K,LEN(SH#))=
SH# THEN GOSUB 5100
5070 NEXT K
5080 NEXT J
5090 RETURN
5100 GOSUB 4500
5120 GOSUB 4800:GOSUB 4035
5130 RETURN
5200 FOR I=1 TO NH
5210 GOSUB 5030
5220 NEXT I
5230 GOTO 1
6000 REM NEW CARD
6010 CLS
6020 PRINT@64,NM#:PRINT
6040 PRINT@0;A$(0,0);":":;
6050 GOSUB 1500:NC#=IK#
6060 FOR J=0 TO HC:PRINT@0,J+1:PRIN
T@160,;
6065 IF NC#=A$(0,J) THEN PRINT"ALRE
ADY IN FILE":GOTO 6040
6070 IF NC#<A$(0,J+1) THEN 6200
6075 IF A$(0,J)="" THEN 6100
6080 NEXT J
6090 HC=J
6100 A$(0,J)=NC#
6110 FOR I=1 TO NH
6120 PRINT I;A$(I,0);":":;
6130 GOSUB 1500:A$(I,J)=IK#
6140 NEXT I
6150 GOSUB 4500:GOSUB 5120
6160 GOTO 6150
6200 FORMV=HC TO J+1 STEP -1
6210 FOR I=0 TO NH
6220 A$(I,MV+1)=A$(I,MV)
6230 NEXT I:NEXT MV
6240 J=J+1:HC=HC+1
6250 GOTO 6100
7000 REM SYSTEM PRINT
7010 FOR J=1 TO HC
7020 GOSUB 4600
7030 NEXT J
7040 GOTO 1
8000 REM RETRIEVE
8010 CLS:CLEAR 2500,31000:DIMA$(1
0,100):DL=500:MC=100
8020 GOTO 2060

```

# soft gold

The exciting news this month is Tandy's decision to go on line. Starting soon with just a T1000 plus hard disk, Tandy will have their own Bulletin Board System to answer your questions and provide user information. More next month!

The PC world is coming under very strong competition from the Taiwanese again, with the latest imports being VERY competitively priced.

If the Taiwanese ever decide to service their units in Australia, home users may well find themselves purchasing from this source in the future.

At present however, the Tandy 1000 remains the only PC with strong, across the nation manufacturer's support, and a reasonable price.

Tandy in the last few months have made a major changes to their previous policies, and have almost reversed direction.

It started when they allowed our posters into their stores back in October last year.

Then they agreed to advertise in our magazine; and now they are selling the magazine. In the meantime they have been selecting very carefully, products from external suppliers, for inclusion in their 9000 series, Quick Ship program.

The day will come when Tandy will have only a small house range of software, and a broader range of external software.

Already, people are utilizing this program to purchase such award winning programs as Sybiz, Integrity Suite, Magnabiz, Accounting I and Type Quick.

We have noted an emphasis being placed on quality selections for the T1000. For example, the Netcom Modem is a 1200/75 and 300/300 baud modem with auto answer, auto dial facilities. It is not a cheap unit at \$849.00, but it has many additional features which make it an outstanding selection for your T1000.

In fact, along with the changes to previous policy, Tandy have developed a very professional attitude to both the product and the customer.

The result is that Tandy are experiencing a small boom in sales of the T1000 and its software. Christmas sales should be very encouraging for them.

Tandy have a small number of games available for the T1000 now. They include:

Demon Attack	\$44.95
B.C.	\$59.95
King's Quest 1	\$69.95
King's Quest 2	\$69.95
Fraction Fever	\$49.95

Kidwriter \$49.95

and Pipes \$44.95

Several of these programs are useful as Educational programs too.

Other items of interest for the T1000 are a Mouse/clock controller for \$199.95, which is likely to work on other PCs, and a Hard Disk controller board for Tandy's 15 and 35 Megabyte hard disks.

The 15 Megabyte hard disk system is currently \$2499.00 - very competitive!

A first for Tandy is the new COMBO board. The COMBO provides for memory upgrades up to 512K plus either a RS232 port or a mouse.

The advantage is that you can have 640K, and a mouse or RS232 and only use one slot!

This month we decided to keep this section a bit small because as of next month, we expect to be devoting more space to softgold on a continuing basis.

At this stage, we are to continue our policy of printing all that we have for the MC 10 section each month, but as the quantity of information for the MiCo section is diminishing, more space is generally available for softgold.

If you have a T2000 or T1000, your articles and programs are needed urgently to fill this space! So now is the time to start thinking about what you can contribute.

Our requirements are only that the article be original. We want simple to understand, early user articles, so even if you have only had your computer a few weeks, we want to hear about it, and what you think of it.

One more step in the advance to the world of Dick Tracy was taken recently when Seiko announced their UC-2000 Wrist Information System, and RC-1000 Wrist Information Terminal.

These little wonders wont take the place of the T1000 yet, but they act as windows on a fast emerging 21st century.

The UC2000 receives data from its own detachable keyboard; the RC2000 can receive data from your PC (and therefore presumably your T1000).

Each unit has 2K of RAM (more than Tandy's first small computer - the PC !!), and they are designed to keep you informed about appointments, phone numbers, names etc.

The watches include of course (!) a clock and a calendar and the RC-1000 plugs into the PC's RS232 port and you can then store up to 80 24 character entries and display them on a 2 line 24 character readout.

As far as I know, they are yet to be released in Australia. And it may be that we will not get them,





# CLUB NEWS

I want to say a special thank you to two groups. The first is the Dubbo group who welcomed me so warmly on my recent trip there. They have a group of young folk who show great promise, and a leader who will encourage that promise to its fullest extent. The second group is the Coffs group, who we met on the same trip. This group is comparatively new, but is quite large, thanks to the unceasing efforts of Di McKinnon, one of the growing band of involved Tandy people. It is a fact of life that the more involved you are the more successful you will be. Tandy shops across Australia demonstrate this. Folk like Di, Eric Hicks, Mick Page, Trevor Knight and many others who get involved not only with the Users' Group but also with the community at large, reflect their involvement in their sales figures and at the same time bring much credit to Tandy.

I was at Warwick last month and what started as a small meeting ended up being something quite large. I fear I let Trevor (Tandy Warwick) down a little as I could have been better prepared to speak on "Computing in Education", otherwise one of my favorite subjects. Nonetheless, once we got into the demonstrating of Ears, CoCoMax, The CoCoConnection, and a few of the other programs, the folk seemed happy enough. In fact, I think many are just starting to realise that these Tandy computers are a force to be reckoned with!

I was a bit hard on the CoCoPug mag last month - I think they just had an off-month - we certainly can identify with that! If you are looking for good additional reading for your CoCo, there are now good publications being produced by Brisbane (CoCoBug), Perth (CoCoPug), Cooma (Newsletter), Port Noarlunga (Newsletter) and Morwell (Newsletter). There are a number of other groups putting out smaller versions - Wonthaggi and Gold Coast (on occasion) are two that spring to mind. On November 9th we are having a BYO BBQ in the park in Marine Parade, Labrador at 11.30 AM. Anyone who would like to join us is welcome. The park is an ideal family area, right on the Broadwater. There is swimming, boat hire and sailboard hire nearby. So if you are close enough, why not put the

day aside and come along!

I'll put a map in this section next month so you don't get lost!

Finally, one of this magazine's good friends in Sydney has discovered he has a serious cancer. We want you to know mate that our prayers are with you for a quick recovery.

## SCOREBOARD

continued from page 38

Dear Michael,

I would like to give the readers of CoCo some hints about "DUNGEONS OF DAGGORATH".

If some of you have killed the APPRENTICE on the third level, there are two more levels to undergo. On the last level the Wizard is there. You must kill him and he leaves you a SUPREME RING, so what do you do? Well you must incant it like the VULCAN RING.

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Geoffrey Bean  
SEVEN HILLS, N.S.W.

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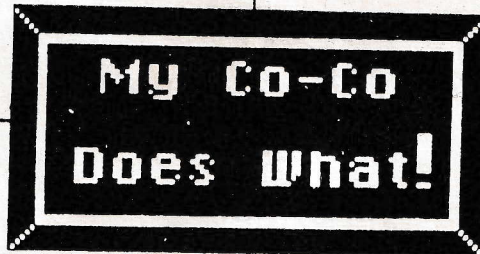
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or MARK ROTHWELL 02 817 4627	MUDGEE BRIAN STONE 063-72-1958	OS9 GROUPS
CHURCHILL GEOFF SPOWART 051 22 1389	MURGON PETER ANGEL 071 68 1628	BANKSTOWN CARL STERN 02 646 3619
COLYTON TEENS WAYNE HANSON 02 623 5805	NAMBUCCA HDS WENDY PETERSON 065 68 6723	BRISBANE JACK FRICKER 07 262 8869
COOMA ROSS PRATT 0648 23 065	NEWCASTLE LYN DAWSON 049 49 8144	KALGOORLIE TERRY BURNETT 090.21.5212
COORANBONG GEORGE SAVAGE 049 77 1054	NOWRA ROY LOPEZ 044 48 7031	MONARO FRED BISSELING 0648 23263
DANDENONG DAVID HORROCKS 03 793 5157	ORANGE STEVE LOVETT 063.62.4025	PENRITH BOB THOMSON 047 30 2468
DARWIN BRENTON PRIOR 089.81.7766	or JIM JAMES 063 62 8625	SYDNEY EAST JACKY COCKINOS 02.344.9111
DENILIQUIN WAYNE PATTERSON 058 81 3014	PARKES DAVID SMALL 068 62 2682	SYDNEY NTH MARK ROTHWELL 02 817 4627
DONCASTER JUSTIN LIPTON 03 857 5149	PENRITH ALEX SCHOFIELD 047 31 5303	BLAXLAND 128K BOB THOMSON 047 30 2468
DUBBO GRAEME CLARKE 068 89 2095	PERTH IAN MACLEOD 09 448 2136	Micro GROUPS
FORBES JOHANNA VAGG 068 52 2943	PORT LINCOLN JOHN BOARDMAN 086 82 2385	CARLISLE STUART HALL 08 361 1922
FORSTER GARY BAILEY 065 54 5029	PORT MACQUARIE RON DALOR 065 83 8223	LITHGOW DAVID BERGER 063 52 2282
FRANKSTON BOB HAYTER 03.783.9748	PORT NOARLINGA ROB DALZELL 08 386 1647	PORT LINCOLN JOHN BOARDMAN 086 82 2385
GIPPSLAND STH PAT KERMODE 056 74 4583	PORT PIRIE KEVIN GOWAN 086 32 1368	ROCKHAMPTON TIM SHANK 079 28 1846
GLADSTONE ALBERT VAN GORKUM 079 72 2353	RINGWOOD ANDREW RAWLINGS 03 700 4498	SYDNEY RAJA VIJAY 02 519 4106
GOLD COAST SHERYL BENTICK 075-39-2003	ROCKHAMPTON KEIRAN SIMPSON 079 28 6162	TANDY 1000 / MS DOS
GOSFORD PETER SEIFERT 043 32 7874	ROSEVILLE KEN UZZELL 02 467 1619	BRISBANE BRIAN DOUGAN 07 30 2072
GOULBURN VALLEY TONY HILLIS 058 59 2251	SALE BRYAN McHUGH 051 44 4792	SYDNEY ROGER RUTHEN 047.39.3903
	SANDGATE MARK MIGHELL 07 269 5090	FORTH
	SCARBOROUGH PETER MAY 07 203 6723	PORT LINCOLN JOHN BOARDMAN 086 82 2385

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