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DECEMBER, 1986  
Vol 3. No. 4

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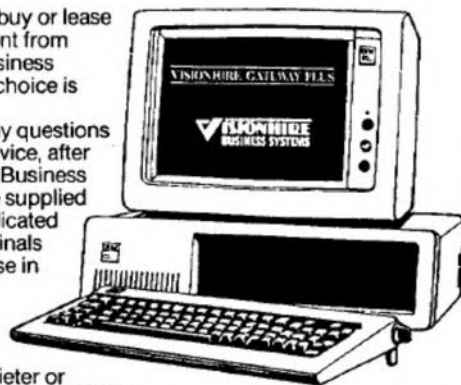
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&



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## Who is this magazine for?

This magazine is for users of Tandy Colour Computers, MC-10 computers, Model 100 and 200 users, T1000 and T2000 users.

I.B.M. P.C. and I.B.M. clone users will also be able to use the T1000 programmes and articles in the "softgold" section.

## Who provides the material for this magazine?

90% of the material to be found in this magazine is provided by people who just want to share their knowledge with you.

## The Crew

**Founder** Greg Wilson

**Publishers** Graham & Annette Morphett

**Managing Editor** Graham Morphett

**Accounts** Annette Morphett

**Assistant Editor** Julie Vidler

**Advertising** Graham Morphett

**Art** Jim Bentick

**Sub Editors**

**Assembly Language:** John Poxon

**MC-10:** Jim Rogers

**Softgold:** Barry Cawley

**Forth:** John Redmond

**OS-9:** Jack Fricker

**Special Thanks to**

Brian Dougan, Paul Humphreys,

Alex Hartmann, Michael Horn,

Darcy O'Toole, Martha Gritwhistle,

Geoff Fiala, John Redmond,

Sonya Young and Mike Turk.

**Phone:** (075) 51 0577 Voice

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# Merry CHRISTMAS

from us!



Julie



Annette & Katie



Paul



Jim, Kate & Sheryl



Alex



Sonya



[Name obscured]

# clubroom



Welcome New Readers

Over the past two months we've enjoyed an increasing influx of readers, essentially as a result of our activities on Viatel.

At this time of year we also get an influx of new readers from amongst the purchasers of new Tandy Computers. We welcome these new readers and we are certain that they will be more than pleased that they purchased a Tandy Computer!

There are some excellent reasons for so doing!

Tandy has 350 stores across Australia, and if you are reading this in Canada, many more there.

In Australia we have over 150 Groups or Contacts who are eager to assist you should you need it.

There is also Australian CoCo Magazine for new users of Tandy computers, and for CoCo owners, Australian Rainbow Magazine, to supply assistance, programs & entertainment.

Finally, on Viatel, there are over 1000 pages of information aimed firstly at Tandy computer users. If you have a modem & Viatel software, we are online most nights for 5 hours to help you with problems, or just to chat.

It is a cliché, but it is true... there has never been a better time to purchase a Tandy Computer!

Who is This Magazine For?

Australian CoCo started off as a magazine for new users of Tandy Colour Computers and of the Tandy MC 10 computer, since deleted from Tandy's product line.

(It is an interesting comment on Tandy, that even 2 years after the MC 10 was deleted, Tandy still support the computer, and people are still purchasing this magazine because of the MC 10 content - that's support you won't find elsewhere!)

Since this magazine's inception, it has grown from the 48 page initial edition, to this month's monster 80 pager!

Australian CoCo Magazine is now also read by people who purchase Tandy 1000's, a very large contingent of Viatel users, a heap of Canadians

with all sorts of funny computers, and people who buy it for the articles.

Obviously we've expanded over the two and a half years we've been going, & this month, we introduce Eggemon, a further development... but more on Eggemon later!

You can have a lot of fun with a computer and you can have even more fun with people who are having a lot of fun with computers!

This magazine is for those of you who 'wanna have fun'!

Eggemon

I've thought longer & harder about Eggemon than anything else we've done.

Martha, who can always give advice about such matters, has been saying that we shouldn't be doing it.

Which is probably why we are!

Eggemon is the brain lapse of one the members of Goldlink, Adrian Lemke.

It is an example of what you can achieve when you apply a software tool to a project.

In this case the software tool is Print Shop.

Print Shop will work on a variety of computers including the Tandy 1000.

Adrian is keen to obtain material for Eggemon, so if, after reading the first installment, you feel you may be regressed sufficiently, you can send info directly to Adrian, or to us, & we will pass it on to him, for better or worse.

Adrian has proven that even with great tools such as Print Shop, anyone can fail!

Canada

Things have been happening in Canada!

Richard Hobson, our agent there, had a stand at the recent Toronto Computer Fest '86.

The photos show Richard's stand there... great stuff Richard!



Our Canadian friends are starting to purchase the magazine in bigger numbers thanks to Richard's work and we expect to have significant sales there this year.

## CLUB ROOM

### Canadian Product

The first product from Canada to be advertised in our magazine is a book by Raymond Kosmic (!) called Big Blue Seed.



This book is a guide to assembling IBM Compatible Motherboards and peripheral circuit cards.

It is a most interesting book for those of you with an interest in IBM 'bashing'. Look for further details in 'Softgold' in January!

### Computer Expo

We were privileged to be invited to be a part of the Brisbane Computer Expo with Tandy in November.

This show, which historically tends to be the show piece for Queensland computing, was a surprisingly droll event.

There were a number of new Taiwanese products there, essentially copies of the 'Big Blue', and certainly in business, it appears that the 8086/8088 based computers have won the day.

But in Graphics / Music / Home Use / & even communications the Motorola based computers such as the Amiga, the Ataris, the new Apple GS, and yes our own new CoCo 3 seem to have a distinct edge over the IBM's.



It comes back to speed and versatility...the Amiga can run a task under MS DOS whilst performing other tasks under OS-9!

Even the CoCo 3 has this potential, although no MS DOS is likely to emerge for it.... with the power of OS 9, who needs it!

I took a heap of photos, but the only one worth attempting to print happens to be of the cute little kid you see demonstrating how easy it is to use a CoCo 3!

### Gatton Demonstration

On Thursday 13th November, I attended a demonstration sponsored by the local Tandy dealer in the town.

I really love being at these sorts of occasions - one meets top people - in fact, let's face it, I always have a ball!!

In this case, Gatton really has not, until now, been serviced as far as computer needs are concerned, so it is going to be interesting to see how the people react in the long term, to the work we did there.

### CoCo 3 News

Those of you who have purchased CoCos, & especially CoCo 3's recently may be interested to learn of some of the computer's capabilities.

Your computer can (given the appropriate Hard/software additions):

- \* Play great games;
- \* Do great Grafix;
- \* Play 11 voice music;
- \* Connect to a midi interface so you can program music synthesisers;
- \* Assist in educating your children & yourself;
- \* Communicate with other computers locally, interstate or internationally;
- \* Control robots, or anything else which can be controlled electronically including home security systems;
- \* Control your business;
- \* Speak -it can also understand what you say to it using a program called 'Ears';
- \* understand a number of different programming languages such as Forth, C, Pascal, Logo, Basic09, Fortran, Cobol, Pilot and Machine Language;
- \* run different programs simultaneously (under OS-9).

For our more advanced readers, OS-9 Level 2 will be released in Australia in late January, as I believe, will Deskmate 3.

### T1000 News

The T1000 sale during November was a resounding success!

Tandy has been selling T1000's like never before, and as a result we have a heap of new readers!

For you we have a section in this magazine called 'Softgold', and we are pleased to note that as people make discoveries about their new computer, so this section is growing!

In fact 'Softgold' will be a magazine in its own right soon!





In other T1000 news, the EX & the SX T1000's are being released late this month. They look great & they will certainly make the opposition sit up & take notice!

#### T3000 HL

The Tandy 3000 HL will be released this month and is the machine leading the way in the XT world.



In fact I hear that IBM have just upgraded their XT so it can meet the spec's of the new HL! The starting price for a HL is \$3999.00.

#### The Orange Field Days.

A correspondent visited the annual Orange Field Days in Orange NSW this year and reported the immense change to the display made because of the widespread use of computers at the stands.

He also noted the hypocritical stand taken by most government departments.

Our governments are encouraging us all to 'buy Australian', and yet most of the departments represented at the show had computers which at best were Taiwanese clones.

These computers are sold to the various government departments at rock bottom prices, by people with no intent of supporting the units, and who have spent not a bean on infrastructure.

Our correspondent was pleased to note on the other hand, that the businesses at the Field Days mostly employed 'name' brand computers.

This magazine finds the two faced attitude of the Queensland Govt unacceptable, and fully endorses the work being done by Trevor Croll in Qld to try to make Queensland Government departments act in a responsible manner.

Wouldn't it be nice if the Australian Government got its act together before Trevor Croll got onto them!

#### Competitions

Don't forget that we have a music competition (any computer) and a programming competition for the CoCo 3 running at present.

We've extended the running time of the Music Competition as its proving popular, and it will close with the CoCo 3 competition on 7th February, 1987.

That sounds like lots of time, but with Christmas & New Year to interrupt your computing time, it isn't really, so if you're intending to enter, get those entries in NOW!!

#### Change of Address.

After I think 4 years at the same address, Blaxland Computer Services have moved to new premises at 134 Great Western Highway, Blaxland.

We wish them well in the move. Good one Bruce!

#### Club News

This Magazine is being prepared right on the heels of the November magazine, so there has not been sufficient time for additional news to be generated.

However, I want to point out once more to our new readers, that the Users' Groups & Contacts listed in this magazine consist of people who really enjoy using their computers and who really don't mind if you call and ask for help.

In fact most of us get quite upset if we find you've needed help & you haven't called!

So please use us if your new computer is causing you hair loss...

Some info we did receive which missed last month is the Canberra news:

**T**HE CANBERRA COCO and MC-10 User Group meets at 7:30 pm on the first Monday of every month at the Giralang Community Centre. We have about 20 regular attendees and a mixed group of COCO and MC-10 owners. We range in age from pre-teens to over 40 and come from a diverse background - school pupils, parents, public-servants, electronics technicians, just to name a few (no it isn't dominated by Public Servants).

The local group includes several authors of articles printed in Australian COCO, The Thurbons, Wilson Hives, Michael Turk and we get an occasional visit from John Redmond (FORTH RULES OK!).

Each month we try and arrange for a member or guest to give a talk or hold a question-time. During the past six months we have looked at Telewriter 64, VIP Writer, Disc Scripsit, the Platinum Worksaver and Disc Worksaver and Forth. A talk recently given by one of our members (John Berger), will be published in a future issue.

Of course there are plenty of opportunities for game players. The favourites in September seemed to be Time Bandit, the Flight Simulator and Dungeons of Dagorath.

## CLUB ROOM

We have a library of non-copyrighted programs. Program exchange through the library is the only means of program exchange encouraged during meetings. We keep both COCO and MC-10 programs on disc. Library programs are formatted to use lines 0-49 as follows:

- 0 - 9 COCOMUG INFORMATION
- 10 - 19 SOURCE OF THE PROGRAM
- 20 - 29 OPERATING THE PROGRAM
- 30 - 39 INSTRUCTIONS
- 40 - 49 WARNINGS

For example:

```
0 'CANBERRA COCOMUG LIBRARY
2 '*** EASY TYPE *** V1.0 UTILITY
4 'CONTRIBUTOR: J. SMITH 30 FEB 1999
6 'MODIFICATIONS: REPLACED INKEYS'S WITH EXECS
10 'SYSTEM: 32K DISC, JOYSTICK
12 'SOURCE: XYZ MAGAZINE
14 'AUTHOR: A, NON.
20 'TO OPERATE: LOAD:RUN
30 'INSTRUCTIONS: USE ....CONTROL KEYS..etc
40 'WARNINGS: *** DISC USERS BEWARE ***
42 'USES 359 POKE IN LINE 130
```

If you live in the Canberra Monaro region come and join us! For further details the Canberra contacts names and phone numbers are always on the back cover of this magazine.

### Best of CoCoOz's

Boy you really made us work this last month! We introduced the 3 new Best of CoCoOz's plus the CoCo 3 Tape / Disk at once - something we might not do again for a while!

The Education one - #10 - is especially popular, and rightly so, as it has many of Bob Horne's excellent programs from the last year or so!

### Some Christmas Goodies

We've had much fun this month with a number of Tandy's other products!

Yes folks, every job has its perks, & one has to admit that getting the use of some of the latest Tandy releases comes under the heading of 'Sheer Pleasure'!

For a start we've been kept company with not one, but three new robots!

Tandy's original Armatron was put out to pasture earlier this year, and has just been superceded by the Mobile Armatron.

The big advantage the Mobile Armatron has over the previous model is that it is controlled electrically, not mechanically.

This means that it is a very simple matter indeed to connect it to the CoCoConnection or other control device for control by computer.

As its name suggests, it is able to move about the room, it's arm lifts, it's 'wrist' bends, it's 'hand' clasps and rotates.

And at \$89.95, it is the best value in robotics today!

The Robie Junior Remote Command Intelligent Robot is my favourite.

This is the first of the 'Household' robots to be able to react to its environment.

In Junior's case, this means that it will stop and turn away from anything it bumps into, whilst saying 'whoops, sorry'!

The remote control unit is, surprisingly, one of the infra red type, like most remote TV channel changers.



There's an advantage here too for robotics freaks in that this unit, when set up as part of a computerised system, will allow for very precise directional control.

Junior has two 'ears' which help it to determine the direction from which the signal is coming, and react accordingly.

In fact Junior is so close to being a prototype for a household automatic vacuum cleaner, I won't be surprised if some of you write soon & tell me that you've actually done it!

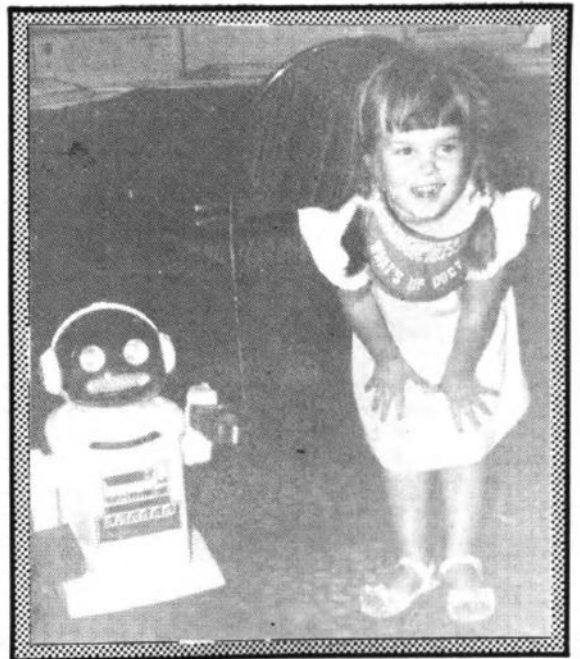
At \$179.95, Junior is cheap. Have a look, you'll see what I mean!

### Robie Senior is another kettle of fish!

Robie Senior can be programmed, at a preset time, to move from room to room & wake the house up, or to move to a room to remind you of a regular appointment.... not practical day to day perhaps, but if you set him up before a party, the ultimate in one-upsmanship!

Robie will also play music tapes, allow your voice to be transmitted from the hand control to the robot, and perform a number of additional functions.

Robie Senior comes complete with his own rechargeable battery and is very easy to use.



The photo shows our young model with Senior at the recent Computer Expo in Brisbane, where she had

him zipping between the legs of the visitors with ease!

Robie Senior is \$379.95

On a different note, the portable Laser Player of Tandy's, is a very nice piece of equipment to own too!

This unit can be carried over the shoulder like a Walkman. You use earphones and the sound produced is every bit as good as you'll get at home on very expensive systems.

But it does not stop there.



The unit, when you get home, can be attached to the power unit that comes with the system, and you can then play your laser disks through your home stereo.

Finally, you could move the unit to your car & have it play through your car's stereo system!

In other words this is a most versatile unit which people on the go will really love.

At \$529.95 such people will not find this unit expensive.

I'm going to leave the Australia 2 Yacht till next magazine. Suffice to say that this yacht has proven to be the major distraction around here!

#### January's Magazine

January's CoCo magazine will, as per last year, be a reference issue.

We've accumulated all the hints & tips you've been sending through the year and we've kept some definitive programs to show just some of the uses you can put your computer to!

There is a list of the Contents of all CoCoOz's from #1 till now; Memory Maps - all sorts of useful reference material!

You'll want to keep January's magazine near your computer all year through!

#### Australian Rainbow Magazine

Australian Rainbow Magazine is the magazine for experienced users of Tandy Colour Computer users.

It is essentially a teaching magazine, with lots of programs for people who have spent at least a little time with CoCo.

In fact some of the programs published are very definitely commercial quality, so at \$4.95 a month, Australian Rainbow is value indeed!

#### Tandy Store Award

The Tandy Store Award is always a difficult one to make because there are often conflicting deserving causes.

I want to give an encouragement award to Sue Gard in Gladstone Qld.

Sue has a fine reputation as a capable caring Tandy Manager, and this was underlined recently on Viatel when she 'starred' for an hour or so!

So, to you Sue goes a special award in recognition of the service you provide the people of the Gladstone area.

The Tandy Store Award for December has to go to a store which is not unfamiliar with this award.

Di McKinnon's store in Coffs Harbour is well known as THE place on the north coast of NSW to go when you need help.

And Di also received accolades on Goldlink recently, so the information we are getting in the mail & on the phone about her is further backed by what we read there!

Well done Di ... we expect to see you give Francis Lim a shove in the CoCo sales comp this month too!!

Happy Christmas - From ALL of us!

Goldsoft is a conglomerate of individuals who would be the most caring group of people I have ever met.

And this year has been sad in that we've seen two of our original group, Kevin Mischewski & Sonya Young, move on.

Nonetheless, they are in our hearts still, and they will want to be included in our Christmas wishes to you all.

So from Kevin; Sonya; The Dougan Family; The Eldridge family; John Redmond; John Poxon; Paul Humphreys; Mike Turk; Geoff Fiala; Jack Fricker; Michael Horn; Paul Wynn; MMartha Gritwhistle; Darcy O'Toole; Barry Cawley & Family; Maurice Phillips; Jim & Rita Rogers; Julie; Alex; Jim, Sheryl, Gemma & Kate; & Annette, Katie & myself, thank you very much for your continued support this year.

Please be careful on the roads over Christmas, we need you!

From all of us, have a very happy and joyful Christmas, and of course, a very prosperous New Year!



# AUSTRALIAN PRODUCT REVIEWS

## SOFTWARE

### GEOG

**R**OBIE DALZELL HAS come up with a disk of coordinated programs that could be used in an educational setting and are based on the geography of Australia.

Each program on the disk is separate to the others, however nicely linked by a main menu which is automatically reloaded when finished, giving you the option of looking at another state or signing off from that session.

The disk I looked at had four main files, Australia, South Australia, Queensland and New South Wales. Each unit begins by asking if you wish to use the "TUTORIAL" or "QUESTIONNAIRE" and then enters immediately into the appropriate section.

Each tutorial section is made up of a general overview, climate and rainfall information, pastoral use, mineral use and comments on economy and manufacturing industries. Most of the topics conclude with a diagram drawn in PMODE 3 colours showing the data just covered. A fair amount of care has gone into these "ATLAS" style graphics and they communicate the information clearly. The main body of the tutorial uses the normal text screens of the CoCo, however good use is made of SCREEN0,1 and the CLS colours.

If you choose to test yourself at the Questionnaire, you will be faced with a number of choices. A menu appears with headings like Towns, Industry, Lakes, Information and Mixture. After selection, the state is drawn in PMODE 4 graphics and a total of five questions are asked of you according to the topic chosen. At the conclusion, you are given a score and then another menu allowing access to the tutorials, questionnaire, main menu or end.

My criticism of the programs are certainly not from a programming point of view. The work Mr Dalzell has done is fine in every respect. The articles are interesting and easy to read and the graphics are clear and concise. However, the program poor evaluation techniques. Built into the software is the opportunity to write to the graphic screen in upper and lower case, however if you answer in lower case the computer assumes you answered incorrectly. Also there is not complete uniformity between the Questionnaire and the information in the Tutorial, hence you are not sure of what terms to use in answering the questions. For example, if the answer to a question was "Pastoral Use" and you answered "Farm Use" you would be marked wrong or if you gave an incomplete answer you would not score, eg "Silver" as compared to "Solvent Mining".

My only other comment is that the program accomplishes nothing that is unique to computers. That is to say, that the information contained in the program could also be found in a good atlas. The clue to really good software is so often found in a good atlas. The clue to really good software is so often found in the original idea incorporating something that only a computer can successfully perform. This then, encourages people to buy the computer program rather than the atlas!

In conclusion, I think that Mr Dalzell has put a great deal of work into the program and shows he knows how to make the COCO go through its paces. The program as it stands is well done and is certainly worth consideration if you are looking for a geography program about Australia.

by Ross Eldridge

## SOFTWARE

### DORSETT SYSTEMS

#### SPEECH/TUTOR TAPES

**U**PON RECEIVING the Dorsett Tapes, the first thing of interest was their catalogue listing of tape titles. The list seems endless. I was surprised as to how many tapes there were and also the very practical grassroots subjects with which they dealt. Areas such as Reading Comprehension, Reading Development, Spelling, Phonetics, English as a Second Language, Numbers, Fractions, Geometry, Physics and so on were all covered extensively.

The titles I viewed were dealing with fractions, children's poetry and reading comprehension. The technical quality of the tapes were excellent. There were no I/O errors and the timing on the tapes was first rate. The voice used in the dialogue was always clear and distinct with the program being paced at easy to learn level.

However, the technical standard of the program is a poor recompense if the teaching styles and techniques are out of date and confusing. Hence, to evaluate the section on Introduction to Fractions I showed to tape to a Mathematics Advisory Teacher who is partly responsible for writing the new mathematics Syllabus soon to be implemented in Queensland State Schools. His reaction was extremely positive. The sequencing of the lesson was logical and ordered and used graphics to explain many of the concepts that were necessary to the subject. There was a great deal of interaction between the user and the computer, so you did not feel "left out" of the program, and the screens were designed so the information was clear and uncluttered.

It was very encouraging to find a series of "educational" programs that could stand up to the often critical scrutiny of teachers. The only criticism that was levelled at the program was that the progression from elementary lessons to advanced was a little fast, and some children may need to go over the tapes numerous times to understand the content fully.

The only other area of disappointment was that like the Tandy programs that do similar jobs, the Dorsett tapes are designed to use "GREEN" screen hi-res graphics. Whereas this may be satisfactory in the USA, here in Australia the screens soon lose their fascination. If the programming was altered to use PMODE3 or even the "BUFF" screen a little more variety to colour could be included.

Overall I would say there is definite value in these programs as a TUTORIAL style program, and I could see most of them being used in our schools in the different subject areas.

**SOFTWARE****HERITAGE**

FIND THAT THIS is a very sophisticated program which has a lot of merit but, however, I feel that the format may be somewhat too complicated for a lot of genealogists to follow with complete accuracy.

I menu could contain additional details of procedure to check records usually from the screen and then have the option of printing out the whole or portion of the records as required.

It seems that there can be a good deal of paper waste when a portion is printed out at the cost of a whole sheet. Evidently an 80 or more column printer is required.

To simplify the chart it would be much cleaner reading if the family was divided into separate headings and aid out in an easier to read and easier to follow format thus:-

## Chart I

James Family = Christina Dunheld  
 Profess:  
 D.O.B:  
 Married:  
 Died:

John Family = J Mc..

Profess:

D.O.B:

Married:

Died:

Other family = Other wife

Profess:

D.O.B:

Married:

Died:

Continue as chart I

Continue as chart I

(2)

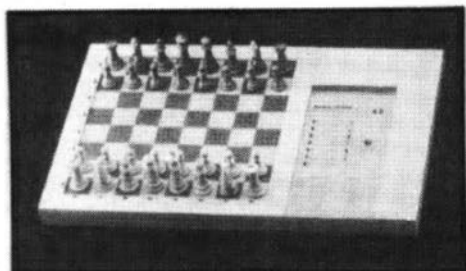
Of course this would cause a complete restructuring of the program but in the eyes of most amateur genealogists it would be far easier to comprehend.

There is an established method of charting amongst genealogists, which makes the charts easy to read, in the diagram plotted above and a more sophisticated charting as offered by this program could cause these newly inundated genealogists to shy away.

Much time and work has quite evidently gone into the preparation of this program and would be a pity not to have it universally accepted because it is of top quality.

There is an updated version of this program produced by RDL which we have not yet seen so it may have been altered considerably. RDL also states that they can customize your own program to suit the needs of your printer.

by Jim Rogers

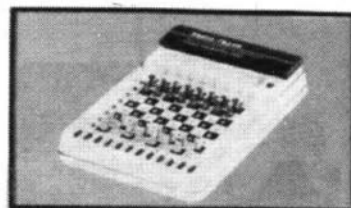
**HARDWARE****THE TANDY 1850 CHESS COMPUTER**

**T**HE 1850 IS A LARGER and more involved version of the 1540 that I mentioned earlier. This larger version includes a proper 20cm by 20cm chess board and magnetic pieces. The largest of which, the king stands about 5cm tall. This set has all of the attributes that the smaller version has, including a "teacher" mode, error beeping (this one does'nt sound half as temperamental as the other one) and take-back. It also has the ability to store the present position of play for up to one year. That is, if you press the memory button half way through a game, all the lights go out and you think it is off. But no! It awaits your return complete with the game situation as you left it.

This game can be a little harder than the 1540. The 1850 has seventeen (count them: 17!) levels of play. It has the same principle behind the actual game play. The board positions still have pressure pads underneath them and its way of moving is still the same.

I found this game to be just as enjoyable as the 1540 if not more enjoyable because of the ease of play. The 1540 is good for travel. This is good for everywhere else.

by Maurice Phillips

**HARDWARE****THE TANDY 1540****CHESS COMPUTER**

**T**HIS SMALL GREY box may not look much, but if you try to play chess against it you may find yourself rather embarrassed, especially if you regard yourself as a good chess player.

The game has eight levels of play and contains all information for movements of pieces, replies to certain opening moves by the opposition and the ability to tell you when you've put a piece in the wrong place (it beeps angrily at you!).

The game board itself works by way of pressure pads under every position on the board. The men have stalks on the bottom of them so when you press the piece down, it registers with the computer.

When the computer wants to move, it tells you which piece it wants to move via co-ordinate lights around the sides of the board. When you have found the piece it wants to move, press it down and it will then tell you where it wants to move it to. Moving yourself works the same way, except that you push the piece that you want to move down and then to the place of your choosing. All this accompanied by a beep to tell you that you've done something.

This game also has the capability to teach you how to play chess and has a "status report", enabling you to find where every piece is on the board. It also has the ability to castle.

continued on page 25

## LETTERS

Dear Graham,

Could you please tell me if there is any way to convert the output from the CoCo and/or the input to a standard television set so that I can display the 'artifacted colors' used in most of the programs for the CoCo.

I hope this is possible as many really good programs are spoilt because the only colors we see down here are a dull grey or yellow.

If there is anybody that has a solution to this problem please write in or contact me on:

Jason Smith  
38 Sydney St  
St Mary's, NSW, 2760

Jason,

The artifacted colours are not available on Australian TV's because our TV's have higher resolution than those of the US.

You can have some fun with POKE 178, N in PMODE 3 where N is any number less than 255. Note that if N = 0 to 3 you'll obtain the normal PMODE 3 colours.

Graham.

\*

Dear Graham,

Could you explain or draw a picture of a MC6821 PIA because I don't know what one is. Could you tell me how the computer controls things by a card to the item or by radio waves, mum wouldn't want holes in the walls going everywhere from the computer.

Can you buy more of these MC6821 PIA's, would a CoCo 64K computer with tape recorder work this system. What else is there you can buy for the Computer system please. I don't know anything about this system except it is like the movie "Electric Dreams" computer.

So could you help explain these questions please?

Yours faithfully  
Benjamin Leversha  
VIC

Benjamin,

I'm confused!

The MC6821 is a component of the CoCoConnection.

The only computer system which uses radio waves is OS 8, & I don't really think you are ready for that! Mind you OS 8 is THE system for those of you with funny electric dreams!

Graham.

\*

Dear Graham,

I have been having problems with 'Fuel Shuttle' (CoCo-July, Craig Stewart) perhaps because I have a white case 64K; I don't know.

Anyway I solved the problem by changing line 205 to read ...

```
205 IF PEEK(65280)=255 OR PEEK(65280)=127 THEN 215 ELSE V=V-.4:PUT
T(A-4,B-3)-(A+4,B+3),B,PSET:PUT
(A1-4,B1-3)-(A1+4,B1+3),C,PSET
```

The part I have altered is the "PEEK"ing for the fire button.

I hope this can help anyone with the same problem.

Yours sincerely,  
Steve Wholer  
WA

Dear Graham,

My name is Syd Price & I have added some lines to Andrew White's "Hangman" program in the October 1985 Australian CoCo to enable one to enter their own words if two or more are playing. The additional changes are as follows:

```
15 PRINT:PRINT"WANT ME TO PICK
A WORD?"
20 I$=INKEY$:IF I$="" THEN 20
25 IF I$="Y" THEN 60
30 INPUT"ENTER WORD":W$
40 P=200:S$(P)=W$:GOTO 120
110 IF P=P1 OR P=P2 OR P=P3 OR
P=P4 THEN 100
120 CLSO
226 PRINT@128+S,Z$:A1=1:C$(S)=
Z$:ON X GOTO 3010,3110, 3210,
3310, 3410, 3510, 3610, 3710,
3810, 3910, 4010
228 IF A1=0 THEN R=R+1:PRINT@R,
Z$:
240 ON Z GOTO 245, 265, 281,
291, 301, 311, 321, 331, 341,
350
375 P1=P2:P2=P3:P3=P4:P4=P
2040 P1=P2:P2=P3:P3=P4:P4=P
2050 PRINT"DO YOU WISH TO HAVE
ANOTHER GAME?":INPUTG$
```

I deleted the following lines: 90, 203, 240, 260, 280, 290, 300, 310, 320, 330, 340, 899, 3000, 3100, 3200, 3300, 3400, 3500, 3600, 3700, 3800, 3900 & 4000.

I am hoping to move to Caboolture if the sale of our house comes through.

Yours Faithfully,  
S.R. Grice.  
NSW

\*

Dear Graham,

I wish to offer sincere thanks for the wonderful programs of Dean Hodgson, published in the Australian CoCo of May 1986, and also offer congratulations to the magazine in which they were published. But why, oh why can you not publish with the program a list of the printer commands as used therein?

For instance, in line 110 of the first program "Addition Worksheet Generator" (ADDSHEET), there is a printer command - PRINT#2,CHR\$(27);CHR\$(69) and CHR\$(27);CHR\$(70)

My printer, the humble Tandy DMP 105 knows not what to do with CHR\$(69) or CHR\$(70), and while it MAY be able to carry out the command under different codes, as I don't know what the code CHR\$(69) is supposed to do. I can't change it, so I just have to leave it out.

Thanks again for your continued work on behalf of all CoCo owners.

Yours Sincerely,  
Sam Robinson.  
QLD

Sam,

The problem of printer codes is a continual one, & historically we just haven't had time to tackle it.

We are attempting a start on the problem though & we will have a summary of some printer codes from some printers in January's magazine, which by the way, is our annual reference issue.

Graham.

Dear Graham,

I am only a poor Uni student and so can not as yet afford the CoCoConnection but am interested in Robotics and would like some more on something like Ears and the CoCoConnection.

Perhaps with the T1000 winning the education contract. A T1000 Connection is not far away if one is not yet available?

Microsoft are one of the major software suppliers in the world market place. Recently I attended the release of an application in Canberra of their latest and most astonishing product. "Windows". It is something to make DOS a more user-friendly environment allowing the user to operate nearly all the DOS commands by a couple of key strokes or a mouse if you have one. Another big selling point, apart from the price (AUD\$199.00), is the internal applications that come with the package; these include a paint program, notepad/mini wordprocessor, clock, filer system. Similar to Deskmate but with full color graphics and cut/paste between all applications ie, graphics in the middle of a letter.

Windows allows the user to divide the visible screen into a infinite number of windows so you can watch and do several applications at once. Now many other software houses are modifying their applications to operate within the windows environment and great things are in the future as anyone who was at the Microsoft presentations in Brisbane will tell you.

Looking forward to hearing from you,  
Paul Savenije

Paul,

We are working on a "universal" CoCoConnection which should be available in 1987.

Windows is a great program!  
Graham.

\*

Dear Graham,

Did you realise that "Typing Teacher" by Graham Pollock, July Australian CoCo, was't included on CoCoOz #40? Instead, another typing program by John Carmichael was on the tape. This one did not appear in the magazine.

The program of John's failed to run due to an error in line 200. (undefined line error). What he had done was to say "THEN RUN", which as you know sends the computer back to the start of the program, line 0. What he intended was for it to continue. I changed the "THE RUN" to "THEN 210" and it was fine. I tidied up the listing a little and in the process, renumbered it.

Once again I would like to thank you and all the team for the great work you are doing for us.

Allan Thompson  
O'Halloran. SA.

Allan,

Yep, we goofed & we'll get the correct prog into CoCoOz ASAP.

My appologies to the Authors concerned.  
Graham.

# doctor COCO

Dear Dr CoCo,

Could you please tell me some information about using ML. When I typed in a short machine language program in an article on how to use ML I could not run it.

I was wondering if you had any books packed with programs. I am interested in how they are put together as I am working on a program so I need ideas.

Ps. Could you tell me your phone number, please?

Alan Torney  
Janbin QLD

Dear Alan,

To answer your question, no we don't keep or sell any books to teach people machine language. You should LEARN assembly language first to KNOW machine language. Assembly language is just that: a language to assemble code so it works in machine language. If you are still interested in learning machine language, it is wise to have the following:

1. A decent book teaching assembly language. You see, to make a machine language program, it is best to type it in assembly language. You may ask yourself, "What kind of book are we looking for?". Ok, that's simple. You go into any computer store and ask for "A book that teaches assembly language for a 6800 CPU computer". Cost is between \$10 and \$30.

2. You also need software to write your assembly language. Tandy sell a program pack called "Etdasm+" for about \$70.

Once you have these two items described above, you can write your program in assembly and run it in machine language.

\*

Dear Dr CoCo,

We are attempting to do "Grand Prix" by Doug Gray out of Australian CoCo November 1985. On line 245 we are receiving an ?UL ERROR. We have repeated the line numerous times and checked the program, however ?UL ERROR in line 245 reappears. Could you please advise us on this problem as it is a long time-consuming program; we are disappointed!!

Joseph Timperos  
Nabowla, Tas

Dear Joseph,

The only thing that I can suggest to you is to check line 70. Is it there? You see, line 245 tells the computer to GOSUB a line 70 (ie, the computer is supposed to go to line 70 and return once it finds a RETURN statement). The only way for you to get an ?UL ERROR is if line 70 isn't there.

\*

Dear Dr CoCo,

Could I get some help with the following?

My son recently purchased the May '86 Rainbow on Tape to indulge his interest in Adventures. He struck some problems:

\* The CoCoZone requires a red screen to take off. We have never been able to achieve it. Curiously line 8 reads LOAD"ZONE", not LOAD"COCOZONE" which is the name of the file in the directory.

\* FANTASY throws up a "?DF ERROR in 590" message.

\* Martha's instructions are unclear. It seems to require use of another blank disk onto which you transfer the first two programs (CHARGEN & SYMGEN). When I attempt to RUN"GOLDSOFT" I get the title,

Hubris Software, then "?NE ERROR"

I am reluctant to throw this in your direction but I am not in contact with anyone who has a copy of the programs so could not seek help locally.

On a happier note, as a secondary teacher of English here in NSW I was wondering if the inclusion of Tandy into Queensland schools has generated any interesting language programs. Perhaps you could put me in touch with someone who has a similar interest in this field.

Paul Sowter  
Westleigh, NSW

Dear Paul,

Here are some recommended tips on fixing the above programs:

\* CoCoZone: don't worry about the red screen to start, that program has been designed to use American artifacted colours. Change LOAD"ZONE" to read LOAD"COCOZONE", otherwise RENAME"COCOZONE/BAS" to "ZONE/BAS".

\* Fantasy: type in: KILL"F/BAS". You shouldn't get a "?DF ERROR".

\* Martha: It is recommended you have an empty formatted disk for this one. For now, lets call this disk your boot disk.

It works like this:

1. LOAD"CHARGEN". RUN it and when it asks you to save it on disk, put in your boot disk and type 'Y' & press <ENTER>. It will save it as "C/DAT".

2. LOAD"SYMGEN" from your tape/disk. RUN it and when it asks you to save it on disk, put in your boot disk and type 'Y' & press <ENTER>. This program will make two extra programs called "S1/DAT" & "S2/DAT".

3. LOAD"GOLDSOFT". SAVE it on your boot disk as well.

To make sure that everything is there, insert your boot disk and type DIR. These programs should come up: "GOLDSOFT/BAS", "C/DAT", "S1/DAT", "S2/DAT".

So if you wanted to play this, you would type in RUN"GOLDSOFT".

As for your question on education programs and contacts, your contact would be Bob Horne, St Edmunds Primary School, Mary St, Ipswich 4305

\*

Dear Dr CoCo,

Could you please tell me if there any alterations to the listing for "Grand Pri" by Doug Grey which was published in your November issue of CoCo. As entering the listings as published I find that the game cannot be played because of errors coming up on the screen.

Thank-you.  
Raymond Stephens,  
NSW

Dear Raymond,

As far as we know, there aren't any alterations to be made to "Grand Pri". You didn't tell me your system, ie 16K, 32K or 64K. If you have a 16K computer with a tape recorder, you'll have to type the following: POKE25,6:NEW and then run it. If you have a disk drive with your system, then type in POKE25,14: POKE&HE00,0:NEW. It should then work.

# doctor COCO

Dear Dr CoCo,

I am having trouble getting "The Joys of Early Amortization" up and running. As I am a beginner it is probably my typing but it would be good if there is a printing error. Please let me know if anybody else has had problems and how it was fixed.

John Turner  
Aukcland, NZ

Dear John,

What kind of problems did you have, ie what kind of errors did you get? There hasn't been any corrections nor any problems encountered with "The Joys of Early Amortization" that we know of here. My best solution would be for you to go through your program and check all your lines.

One hint I can give you is to type in (before you load the program) PMODE0:PCLEAR1 and then load the program in. Maybe then you won't get as many errors.

\*

Dear Dr CoCo,

I believe that when we bought a CoCo tape that instead of typing each program in from the magazine all the silly nonsense errors and all the other errors would disappear but this is not so.

I also know that if I really spent some time and learned how to program I would be able to cope with these errors. However I neither have the time or inclination and besides a program on a tape should work.

The first error to show is a ?DN ERROR in 730 every time I press any number (1,2,3,4 or 5). (By the way the program is "TV Trivia".)

I look up the ?DN error in the guide and it tells me that there can only be 3 devices used with OPEN, CLOSE, PRINT or INPUT: 0, -1 or -2.

Also somehow I got an error in 205 and I list it. It reads IF TD=12 THEN 210 ELSE 220. There is no line 210, so what does the computer do? It grinds to a stop again! Either line 210 is left out on tape and in the CoCo Magazine or the number should be 215.

There is also a ?SN ERROR in 480.

Help!

Joyce Simpson  
Miles, QLD

Dear Joyce,

Regarding programs on tape, disk and magazine. This is what we do with programs to be included into the magazine. They are generally loaded into a computer and sorted into their categories. "TV Trivia" would come under the title of a game. They are then RUN to see if they work. But due to time pressure (getting the magazines out on time, etc), we can't go through every nook and cranny the program has. We can certainly do that with the smaller programs, but not with the larger ones.

Anyway, to your errors. This program was actually made for a Disk Drive, but if you wanted to, you could do extensive modifications to the program so it runs from a tape-based system.

The error you got in line 730 was a disk error. From what I understand, you don't have a disk drive.

The error in line 480 should have read:

```
480 FOR X=1 TO 2500:NEXT X:CAT=RND(5)
```

The error in line 205 should read:

```
205 IF TD=12 THEN 215 ELSE 220
```

I hope this clarifies everything.

# MICO NEWS

Editor Jim Rogers

I am happy to make the announcement that I now have my upgraded 44 K RAM for my MC10, thanks to John Dyer of Townsville. The job is a fairly simple one, provided you know what you are doing and I doubted my own ability, once a study was made of the supplied plan. However, as John warned previously, a great deal of care is required in the removal of the old chips for replacement by the MCM 6665 P15's. John also stated that it is necessary to use a temperature controlled iron to remove the solder as it would be easy, with too much heat, to lift the tracks and then you would be in trouble.

Possibly I went the wrong way about getting my RAM converted. So that I would not be without my 16K RAM because of the work to be done for the magazine, I tried to get hold of a spare. Not having any luck locally, I ordered one from Tandy in the U.S. at \$39.95. By the time I had paid the exchange rate plus the cost of the draft plus the postage and all the bits and pieces I was up for better than \$80. Then I found, just too late, that the Redcliffe Tandy Store was clearing out their surplus at \$30 each. However that is the luck of the game.

The next bit of exciting news comes from Scott Ferrero who is certain that he is coming up with a disk drive for the MC10 by January or February. Following that he intends to break into VIATEL with his MC10 1200/75 modem.

I realise that a lot of people will feel that it is a foolish investment to pour money into an MC10 which has now become obsolete and superceded and ready for the scrapheap but it has become a hobby, or even an obsession if you wish, for some of us to make it equal to a bigger and much more expensive machine and we already have this one now. The upgrading is being done in instalments and that is how it is being paid for. Eventually it will be a well built little machine capable of surpassing a 32K COCO. Call me a fanatic if you will but I have a dream of using the old MC10 to key in the CoCo ECB programs, storing them on disk and then spend the evenings (if there are any to spare) putting in my few cents worth in VIATEL.

With supporters like Scott and John, Gary Furr, Frank Rees, Grahame Pollock, Mike Turk and backers like the many who to me and send in can I not write programs how realise that dream?



*Jim*



# GOLDLINK

# COM.STATION 642

Well we've had a very busy time on Viatel again, not only with the messaging side of things but also in the growth of the Database itself.

And with Christmas just around the corner, the Goldlink 'Bashes' (parties) are starting to happen - and therefore the photos are starting to arrive in great wads - and therefore I'm going to keep it short this month!

Before I go, congrats go to The Mad Irishman for his joking above & beyond the call of duty! He wins a box of disks for his efforts!

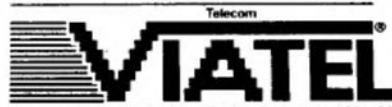
You wanna have fun? You need help with your computer? You just want to chat to folk all around Australia?

The join us on Goldlink - \*642# on Viatel!

\*

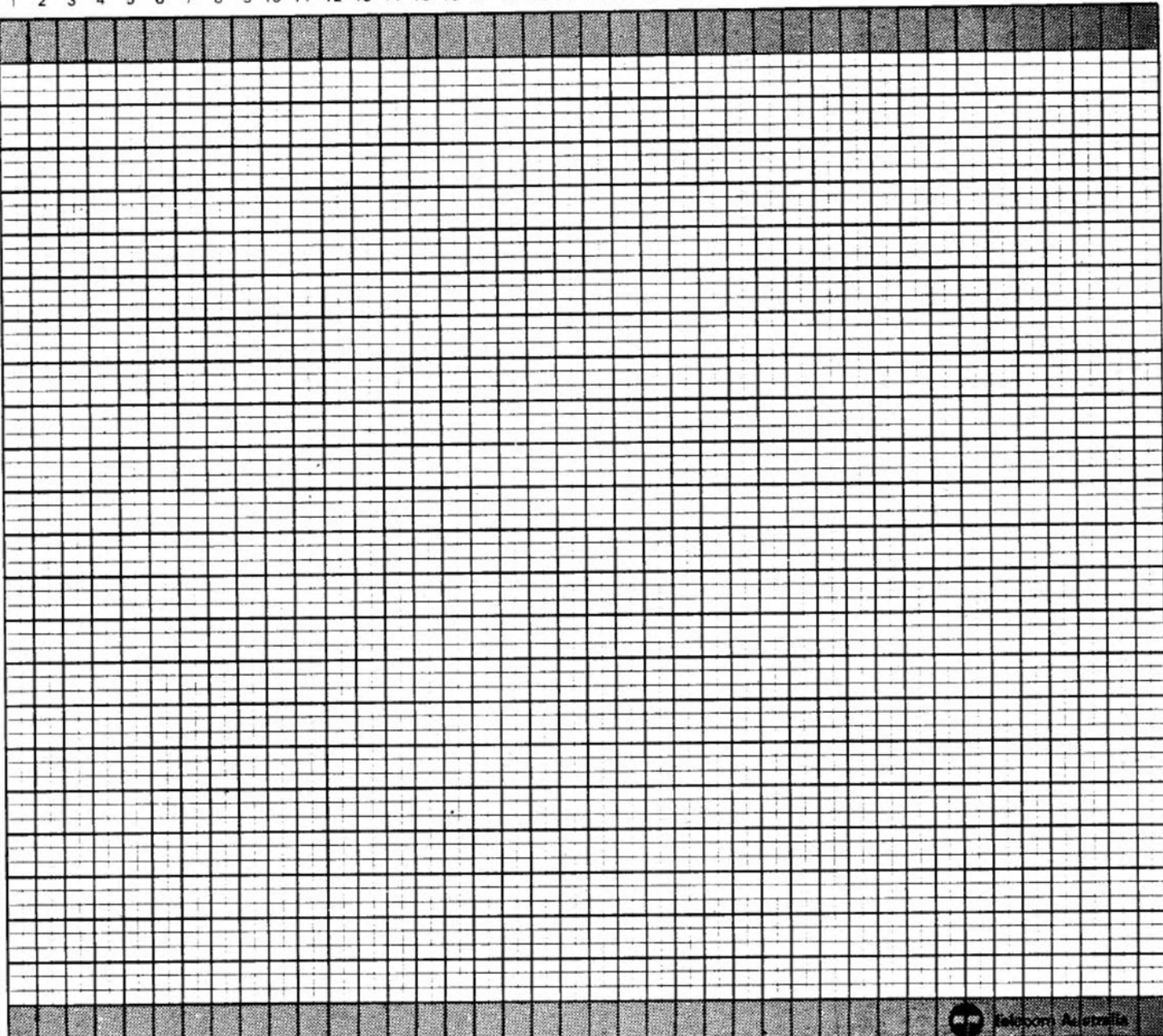
For all you Viatel Grafix freaks, here is a Viatel screen map.

Now you have no excuse for not winning the Christmas Grafix competition.... Right?



AUSTRALIA'S NATIONAL VIDEOTEX SERVICE

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40



Ah yes .... that feeling  
of impending doom!

No  
Leisa,  
we don't  
like the  
hairstyle  
either!

Leisa

Ratbag begging -  
she's just seen  
her Viatel bill!

THE  
ROOTS

Eddorean

Ratbag  
happy.  
She's just  
resolved  
her Viatel  
bill!

Lord Schizoid  
- he's just  
seen  
Ratbag's  
bill!

# Spotlight

on

# MELBOURNE

Hi Big M  
I've been  
that sober  
- once!



Ratbag -  
trying to see  
what goes on  
inside WOMBAT  
head!

Photos: Eddorean

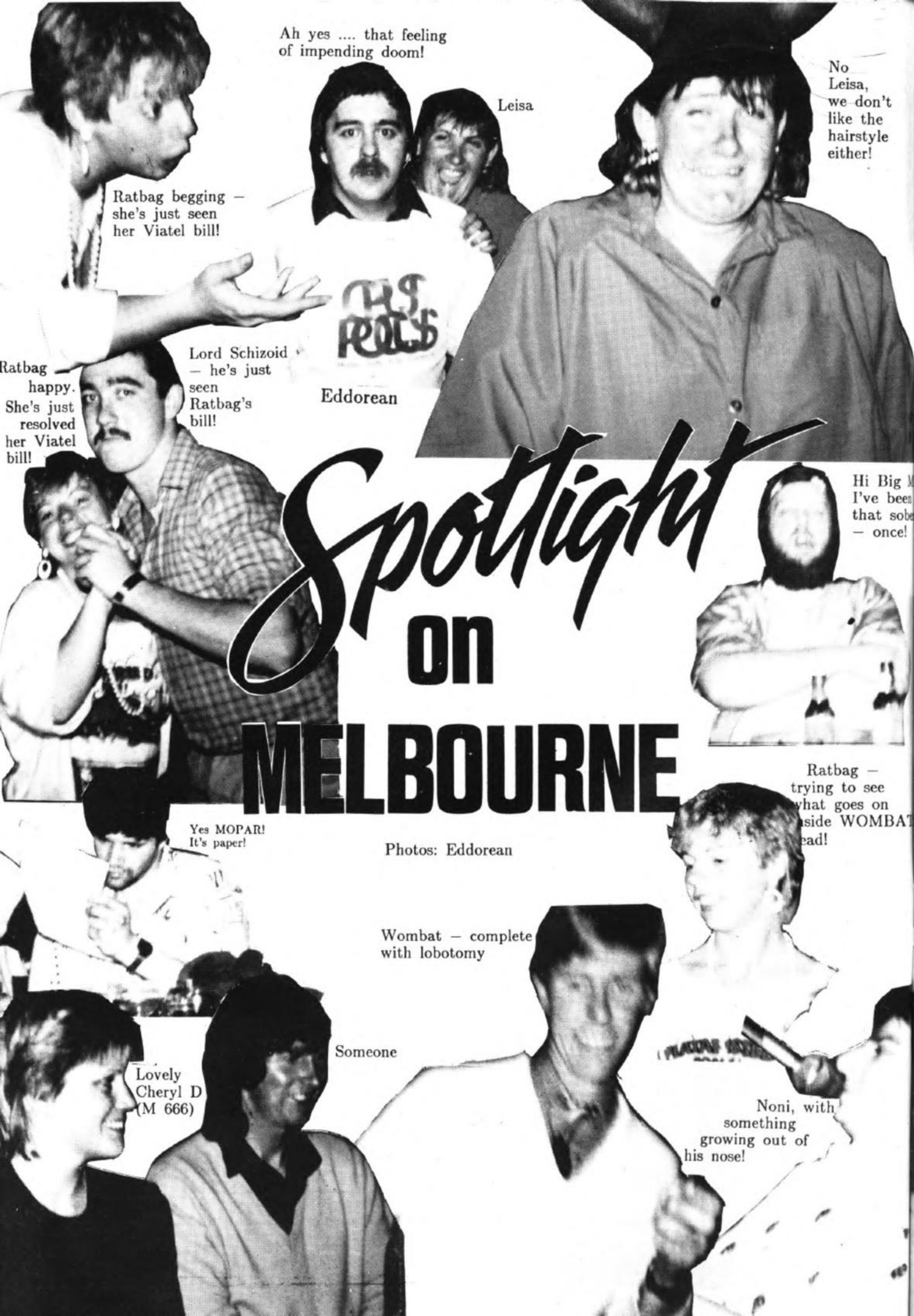
Wombat - complete  
with lobotomy

Someone

Noni, with  
something  
growing out of  
his nose!

Yes MOPAR!  
It's paper!

Lovely  
Cheryl D  
(M 666)





Yummy Princess Cygnus, now an adopted Brisbane person.



Roxanne - N.S.W.'s got SWAN, but Qld's got Roxanne!

# Brisbane

Photos: Princess Cygnus  
Graham  
AFO



Rick & Neil from The Young Ones.  
(Qld's secret weapon!)



AFO - He Always Finds out - it just takes him a little longer!



THE GHOST  
Often online,  
but you never  
know he's  
there!

Annette  
and  
Paul

(He's the  
one  
looking  
away from  
the  
camera!)



# BETTER FOR MICROS



Now there's an exciting new world for Personal Computer owners to explore. The world of Goldlink 642 on Telecom Viatel.

All you need is a 1200/75 baud modem, the appropriate software, and a telephone line, and your PC will be ready to go.

Suddenly you'll be able to shop for software on your PC, and actually download\* it directly through the Viatel system. You'll be able to get PC advice and tips. Even place messages on the system for other Viatel users to read and respond to — literally a PC talkback service that lets you have a say on almost any subject.

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\* Coming



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# COM\* STATION 624

GOLDLINK 64239312a 0c  
Life's Embarrassing Moments. Member  
705471270  
FRI 14 NOV 1986 19:34:35

My most embarrassing moment was havin  
g finished a 64k upgrade on a coco and t  
hen it would work. After spending about  
half an hour checking it out I found out  
I hadn't plugged it into the tv!!!

GOLDLINK 64235315a 0c  
Tandy Users' Board  
753253530  
THU 06 NOV 1986 13:19:06

HI GRAHAM, JUST SHOWING A GENT HOW THIS  
SYSTEM WORKS HOW IS MY ROBOT GOING?

BERNIE

The Robots you guys in the stores have  
got this year are excellent!!  
The little Robbie Jr especially lends  
himself to lots of very exciting  
projects with the CoCoConnection...  
Do you want your robot back in the box,  
or will you accept it in its current  
stripped down form?

Graham

<<8 0 Menu 9>>

GOLDLINK 6423532a 0c  
Tandy Users' BBS Member  
648230650  
SUN 09 NOV 1986 20:08:19

THE PROBLEM WITH GARBAGE BEING RECEIVED  
ON THE OLD GREY COCO (AMERICAN) CAN BE  
FIXED BY LIFTING PIN 40 OUT OF THE PIA C  
HIP (U8) AND RUNNING A WIRE FROM IT TO A  
TERMINAL MARKED PAL ON THE SMALL PC BOA  
RD SOLDERED UPSIDE DOWN NEXT TO THE SAM  
CHIP (U10). YOU WILL HAVE TO UNSOLDER TH  
E PC BOARD TO BE ABLE TO FIND THE PAL TE  
RMINAL. ON THE LATTER MODEL GREYS THE LE  
AD FROM PIN 40 IS SOLDERED ONTO PIN 6 OF  
A CHIP MARKED UMA OR SOMETHING LIKE THA  
T

ROSS

<<8 0 Menu 9>>

GOLDLINK 6423539a 0c  
Tandy Users' BBS Member  
756413480  
FRI 14 NOV 1986 21:15:48

Jeff,  
I have grey case model and the fix  
for the viat-el hook-up as supplied from  
Paris Radio was from pin 40 on U18 (682  
2chip) to pin 7 on U16(AMI 83158xs on Mi  
ne). Works for me.  
Kgee

<<8 0 Menu 9>>

GOLDLINK 6423533a 0c  
Tandy Users' Board  
432472930  
MON 10 NOV 1986 19:42:43

Can anyone tell me if the programs TELE  
PATCH II and WIZARD work correctly with  
Rainbow Bits DOS 2.4. If not does anyone  
know if there is a patch to fix the  
incompatibility. (I have a friend who wa  
nts to buy the above programs but is not  
sure if they will work or not). Please  
leave a message either here or 432472930

Rainbow Bits 2.4? Don't you mean RB  
1.4? If so, Telepatch won't work.  
As far as I know, there is no patch  
for it.  
Tno

<<8 0 Menu 9>>

GOLDLINK 6423534a 0c  
Tandy Users' BBS Member  
726288690  
MON 10 NOV 1986 22:15:42

IF YOU HAVE ONE OF THE NEW COCO 3'S AND  
WANT TO CHANGE THE COLOURS OF THE TEXT  
AND PMODES TRY POKING THE LOCATIONS  
&HFFB0 TO &HFFBF WITH THE COLOURS YOU W  
ANT. LOOKS GREAT ON THE ARCADE GAMES.

U SUALY  
F INDS  
O UT

DOES ANYONE KNOW HOW TO ADDRESS THE GIM  
B TO CHANGE BETWEEN LOW AND HI RES??

<<8 0 Menu 9>>

GOLDLINK 64235612a 0c  
OS9 Users' Board Member  
944821360  
THU 06 NOV 1986 02:11:23

TO all, I also tried the 'bootfix' prog  
given the other night - but it didn't  
work! SO! I used a disk-zap prog to tran  
sfer the boot (track34,sectors1-16) from  
the new v2.00 to a newly cobbledred 1.01  
disk and IT WORKED like a charm!!!  
HAVE FUN.

GOLDLINK 64235311a 0c  
Tandy Users' BBS Member  
352924510  
SUN 26 OCT 1986 20:12:53

COCO3 64 CHARACTER MODE POKES. THE  
WIDTH 80 COMMAND WILL BE REPLACED WITH  
WIDTH 64 COMMAND WITH THE FOLLOWING  
POKES: 57414,17 63052,64 63105,64  
63112,44 63113,00 63601,128  
63605,43 63606,128

WIDTH 64 COMMAND FOR COCO3  
FROM COCOTEX KID

<<8 0 Menu 9>>

GOLDLINK 6423538a 0c  
Tandy Users' BBS Member  
705471270  
FRI 14 NOV 1986 20:52:57

Has anyone see the other's bouncing ba  
l? I've just see the coco 3 bouncing ba  
l on the Tandy demo programme and it's  
incredible. I have a borrowed 3 at hom  
- I'll be buying mine when the 512k on  
arrives.

I'm really turned on by the Coco 3 and  
vice versa.  
JEFF

<<8 0 Menu 9>>

GOLDLINK 64235312a 0c  
Tandy Users' BBS Member  
352924510  
TUE 04 NOV 1986 08:42:15

COCOTEX3 RELEASE

COCOTEX3 WILL BE RELEASED BY THE END  
OF THIS MONTH. COCOTEX3 UPGRADES WILL  
COST \$20 PLUS THE RETURN OF YOUR OLD  
COCOTEX DISK OR TAPE. IF YOU HAVE A TAP  
MASTER AND WOULD LIKE A DISK MASTER IN  
RETURN IT WILL COST \$25. WITH THE NEW  
COCOTEX3 PACKAGE YOU WILL RECEIVE BOTH  
COCO2 AND A COCO3 VERSION PLUS A NEW  
HANDBOOK.

COCOTEX KID

<<8 0 Menu 9>>

GOLDLINK 64235614a 0c  
OS9 Users' Board  
280031600  
SAT 27 SEP 1986 21:02:25  
To all serious OS9 users and others :

We are here to help with your queries re OS9 in general. If you need help or would like to offer some - HELP that is

Please leave a message on this BBS so we can reply.

Aust. OS9 User Group.

P.S. Join our group for monthly OS9 Newsletter.

<<8 0 Menu 9>>

GOLDLINK 64235610a 0c  
OS9 Users' Board Member  
352924510  
TUE 04 NOV 1986 09:52:34

USING OS9 VERSION 1.1 ON COCO3.

THE COCO3 HAS A NEW INTERRUPT VECTOR AREA AT \$FEEB TO \$FEFF WHICH VERSION 1.1 OVERWRITES. A SIMPLE FIX FOUND SO FAR TO GET YOU GOING INVOLVES CHANGING THE BOOT TRACK 34 TO RELOCATE OS9 DOWN 256 BYTES. A SIMPLE BASIC PROGRAM BELOW  
10 CLEAR 500 20 DSKI\$ 0,34,1,A\$,B\$  
30 V=VARPTR(A\$) 40 P=(PEEK(V+2)BY256)+PEEK(V+3) 50 POKE P+&H49,&HFE  
60 POKE P+&H54,&HFE  
70 DSKO\$ 0,34,1,A\$,B\$ note BY=star

<<8 0 Menu 9>>

GOLDLINK 64235612a 0c  
OS9 Users' Board Member  
944821360  
THU 06 NOV 1986 02:11:23

TO all, I also tried the 'bootfix' prog given the other night - but it didn't work! SO! I used a disk-zap prog to transfer the boot (track34,sectors1-16) from the new v2.00 to a newly cobbled 1.01 disk and IT WORKED like a charm!!! HAVE FUN.

Iain

<<8 0 Menu 9>>

GOLDLINK 64235613a 0c  
OS9 Users' Board  
284890350  
THU 06 NOV 1986 22:04:44

RE: Os9 Version 1.1 on Coco3

!!!!!! E U R E K A !!!!!

Thank you 352924510 for solving the problem. You had a transposition error in lines 50 and 60 of your boot fix program. They should be:-

50 POKE P+&H49,&HEF ; 60 POKE P+&H54,&HEF  
FOR COCO3. USE &HF0 INSTEAD OF &HEF FOR COCO2. (I BET YOU KNEW THAT!). MY TRUSTY GREY IS NOW PACKED AWAY. TA -OZWIZ-

<<8 0 Menu 9>>

GOLDLINK 6423565a 0c  
OS9 Users' Board Member  
352924510  
THU 30 OCT 1986 12:49:17

USING COCO3 ON OS9

USING THE VERSION 2 OF OS9 ON THE COCO3 THE CNTRL AND ALT WORK. BY CHANGING THE CO80 SCREEN DRIVER YOU CAN USE THE GIME 80 CHARACTER MODES AND THE DIR, MDIR... MAKE USE OF THE 80 CHAR WIDTH OF THE SCREEN. THE NEW SCREEN DRIVER STILL HAS A FEW BUGS, I WILL LET YOU ALL KNOW ON THIS BOARD WHEN THE DRIVER IS FINISHED.

RON WRIGHT

GOLDLINK 6423562a 0c  
OS9 Users' Board Member  
648230650  
SUN 09 NOV 1986 19:08:55

For the fellow using Basic09 you need a \$ sign in front of all operating system commands to get them to work inside Basic09.

Xcom9 is working with my deluxe rs232 port & a 25 cable ribbon. The rs232 port sends the DTR signal but not the RTS signal. My CEI modem can switch this signal which I must have on for it to work. Another thing set your /T2 baud rate before you run xcom9

I hope this helps

Ross.

<<8 0 Menu 9>>

GOLDLINK 6423561a 0c  
OS9 Users' Board  
838155830  
SUN 09 NOV 1986 15:00:21

JUST GETTING INTO BASIC09 AGAIN AFTER A LONG TIME. Using either OS9(1.1) or (2.0) with Basic09(1.0) all is well except when I do this: At B: I type DIR /D1 to see the directories on that disk which have files I put there some time ago. I get error 214 (No permission). WHAT AM I DOING WRONG? I also tried B:CHAIN "DIR/D1" without success. I must be dull !! Allan.

<<8 0 Menu 9>>

GOLDLINK 64236312a 0c  
Commodore Users' Board

902186140  
SUN 09 NOV 1986 17:36:32

Help Wanted !!! DRAGON'S LAIR.

How do you get Dirk the Daring moving once you have descended into the lower levels. I cannot seem to get him to move at all. Please message me with any help at all on 902186140.

Gazza

GOLDLINK 6423637a 0c  
Commodore Users' Board

050000890  
MON 17 NOV 1986 17:20:41

Giddy from New Zealand to all youse out there. Are there any other Kiwis on this system? Would love to hear from anyone.

Kevin  
NZ Commodore Users Group  
(South Auckland) Inc.

<<8 0 Menu 9>>

GOLDLINK 6423565a 0c  
OS9 Users' Board Member  
352924510  
THU 30 OCT 1986 12:49:17

USING COCO3 ON OS9  
USING THE VERSION 2 OF OS9 ON THE COCO3 THE CNTRL AND ALT WORK. BY CHANGING THE CO80 SCREEN DRIVER YOU CAN USE THE GIME 80 CHARACTER MODES AND THE DIR, MDIR... MAKE USE OF THE 80 CHAR WIDTH OF THE SCREEN. THE NEW SCREEN DRIVER STILL HAS A FEW BUGS, I WILL LET YOU ALL KNOW ON THIS BOARD WHEN THE DRIVER IS FINISHED.

RON WRIGHT

GOLDLINK 6423736a 0c  
The Apple Board  
343716820  
THU 06 NOV 1986 17:11:14

APPLEWORKS USERS!!

Sick of entering the date in Yankee format (month/day/year)?

I have worked out patches for Version 1.2 that completely fix all date entry and display to be Australian format, ie day/month/year.

Requires a bytezap program like Copy plus. Send stamped addressed envelope (and \$5) to 1556 Main Rd, Research, Vic



De VK4ST Are there any other operators on the Sunshine Coast who would like to exchange programmes via modems? QSL!  
73 Brian

<<8 0 Menu 9>>

GOLDLINK 64231451a 0c  
Clubroom  
From: 665286910  
SUN 16 NOV 1986 19:47:28

The funniest thing just hapened to me. I was Sitting down watching a great vide o an all ce a sudden there was a lightening flash and then some strange music and I was transported here to the Twilight Zone( well Goldlink anyway) and I misse d the best part of the movie. But the wo rst part was it cost me 15c.

<ZARD>. (looking for a way out of here)

You have been transformed...you are now a part of our great computer, great cpmputer, great computer, great compute r, great computer, great computer, great computer, great computer, great compute <<8 0 Menu 9>>

GOLDLINK 64231464a 0c  
Clubroom Goldlink Member  
From: 063003280 Jokes Leader  
THU 13 NOV 1986 14:54:31

Paddy's tramping the streets of Ireland looking for a job. He goes into a house and the owner says he'll pay him #5 to paint his porch. He gives Paddy a tin of bight pink paint and tells him the porch is round the back of the house. An hour later Paddy knocks on the door and says "Jobs all done" and adds, "By the way, that Porsche ain't a Porsche, its a Roll s Royce".

WOODROW

<<8 0 Menu 9>>

GOLDLINK 64231471a 0c  
Clubroom Goldlink Member  
From: 024926640  
SUN 16 NOV 1986 22:24:42

Hello peoples, I'm about to do a spot of begging, does anyone please want to buy a 1982 16k TRS-80 for \$60, its a grey case model, goes perfectly, the E key sticks a bit, but thats all, prety please.

Lady Daisy xxx

Gee...that offer sounds too good to be true! You don't get too many "Grey" CoCo's anymore...  
Molly Zero

<<8 0 Menu 9>>

GOLDLINK 64236312a 0c:  
Commodore Users' Board

902186140  
SUN 09 NOV 1986 17:36:32

Help Wanted !!! DRAGON'S LAIR.

How do you get Dirk the Daring moving once you have descended into the lower levels. I cannot seem to get him to move at all. Please mesage me with any help at all on 902186140.

Gazza

<<8 0 Menu 9>>

GOLDLINK 64234621a 0c  
Carry's Kitchen Member  
755105770  
SUN 16 NOV 1986 20:46:24

> QUICHE  
4 eggs..1 cup milk..1 cup evap milk.. 1 cup diced ham, chicken, salmon, bacon pieces etc. one half cup grated cheese, one half packet scones mix, 2 tblespoons softened marg, oregeno fortaste, 1 small grated onion, salt, pepper. Plcace ingr ediants in leak proof bowl, seal and sha ke well. pour into 9 inch quiche or pie plate. Bake for 30 mins of 350 degs F or 180 deg C or until filling is set. It's easy and tastes delicious..DARCY

<<8 0 Menu 9>>

GOLDLINK 64234620a 0c  
The Chef Says:  
260783390  
SAT 15 NOV 1986 02:30:53

> Princess Cygnus, (Swiss Roll)

The problem could be she is overcook ing.

First grease tin then line with grea seproof paper, pour mixture in and evenly spread. Bake in mod. oven 12-15 mins. until it is just coloured and rubbery t o touch. Immediately it is done, turn from tin on to sheet of greaseproof dusted with castor sugar and peel off lining pa per (peel dont lift). If thats no good MB G me with recipe. CARRY.....

<<8 0 Menu 9>>

GOLDLINK 6425134a 0c  
Community Billboard Member  
625138370  
WED 29 OCT 1986 22:44:53

CANBERRA BASH

Date: 22 December, 1986  
Time: 7:30pm  
Place: The City Club, East Row, Canberra.

Anyone interested in coming to the Canberra Bash would you please let me know.

Sally

<<8 0 Menu 9>>

\* 90 #

# HELP:

## TAKING THE FIRST SIMPLE STEPS TO LEARNING BASIC

### REVERSE REVERSE

by Tom Lehane 16K CB

**T**HIS ARTICLE IS not intended to be a complete course in BASIC programming but will provide the basics of a small program, that when on completion the reader will have a building block in which to improve on and understand simple programming. I won't go into program flow charts or use BASIC words thinking you have had four or five years knowledge of BASIC COMPUTER LANGUAGE. Just simple plain English to explain how each section works.

The small program we will write I'll call 'REVERSE' and will consist of a word spelt backwards. The player will be required to retype the word correctly to gain points. The base of our program will be built around the following example. Type this small 7 line program in and enter your name.

```
10 CLS
20 INPUT"NAME";A$
30 B=LEN(A$)
40 FOR X=B TO 1 STEP-1
50 PRINT MID$(A$,X,1);
60 NEXT X
70 GOTO 20
```

Line 10 clears the screen Line 20 waits for a INPUT, when the user types his/her name it is assigned to A\$. In other words your name has been entered into the computers memory under the label A\$ so when you ask the computer to PRINT A\$ it knows where A\$ is and what has been assigned to A\$.

Line 30 B=LEN(A\$): the letter 'B' is used as a variable and can be assigned any numeral value, in this case B=LEN(A\$).

LEN( is a BASIC computer word meaning the length of a variable inside the parentheses. In our example 'B' is the number of characters used in A\$. Lets say A\$ was assigned the name ERNEST HEMMINGWAY. Then the 'B' variable would equal the names length in A\$. The value of 'B' would be 16.

You ask ? "there are 15 letters in that name not 16" Yes, you are right, but we are counting characters and not letters. A space is a character to the computer ( CHR\$(32) ).

Line 40 FOR X=B TO 1 STEP-1 The BASIC word 'FOR' creates a loop which the computer repeats by the numbers specified and increments the variable X by one unless you specify other wise by the BASIC word STEP.

STEP means move by the number specified. If you

type STEP5 then X would increment by 5 instead of one. Just like stepping forward you can step backwards, so in our example the FOR... NEXT loop STEPS backwards by the value of minus 1 as specified by the subtraction sign. 'B' or variable equals 16 so X=16 to 1 and STEP-1 subtracts the number 16 by 1.

Line 50 PRINTS each character in A\$ using BASIC's command MID\$(A\$,X,1). Lets see how this will appear using this BASIC word.

MID\$( takes A\$ from memory, we know A\$="ERNEST HEMINGWAY". The next function of MID\$( is X, remember X=B. The first time through the FOR... NEXT loop X=16 and the 16th letter of ERNEST HEMINGWAY is Y so the letter Y is printed to the screen by the other function of MID\$(A\$,X,1) : The number one. The next time through the FOR... NEXT loop X=15 and 'A' is printed this time around. The letters are stopped from scrolling down the screen by the SEMICOLON at the end of MID\$(A\$,X,1);

Line 60 NEXT X : The BASIC word NEXT returns the computer to the FOR function to complete it's counting or subtracting in our case.

Line 70 returns to the INPUT line (20) for another example. Now this is the building block of our game.

Notice that our word was spelt backwards. Press the BREAK key and type PRINT A\$. The computer still had A\$ in it's memory and spelt the correct way. Now all we have to do is place our chosen words into the computers memory and ask the computer to pick one at random and run it through our little program.

Before you jump into this part of the program we need a few more functions and commands for our computers to carry out it's work. First we need to CLEAR enough memory for the computer to store the strings that are placed in the array DIM W\$(#).

Line 10 will be CLEAR 100. We don't need to clear this amount as our program is small and does not need a CLEAR because the computer clears 200 on start up. I used this because if you add to the program you could run out of string space.

Next is the DIM( ) statement. The BASIC word DIM is short for DIMENSION and means a measurement or size of something, so in a DIM( ) statement we are specifying how much we intend to reserve for our array. Line 20 will be : 20 DIM W\$(15).

Lets look at this important function more closely. I have just covered the meaning of the BASIC word DIM, what about W\$(15). W\$ is the string label for our word variables we will use and the number inside the parentheses represent the number of separate single storage we require for each word. In simple terms we are asking the computer to set aside 15 separate boxes into which we can store our words. Each box will be labeled W\$(1), W\$(2), W\$(3) and so on for all 15 boxes.

The next thing we need to do is place our words into the labeled boxes, W\$(#). This can be achieved in a number of ways but for our program we will use the most common method and that's READ the words in DATA statements into the array by means of a FOR...

NEXT loop. Our program will now look like this...

```
10 CLEAR 100
20 DIM W$(15)
30 FOR X=1 TO 15
40 READ W$(X)
50 NEXT X
```

Our FOR.. NEXT loop changes the value of X in line 40 so the W\$(X) is incremented by one each time through the loop and the BASIC word READ, reads the words listed in lines starting with the BASIC word DATA and places what it has read into each labeled W\$( ) box. Before we can READ in the words we need the words to be read placed in DATA statements. Line 60 on to 100 holds the words in DATA statements.

60 DATA VACUUM,CAMERA,COLUMN In the above example (line 60) the computer READs each DATA statement and places each word into our little boxes W\$(#), each word is separated or detached from the other by a comma.

Once all 15 words have been entered into W\$(#) we move onto line 110 CLS , followed by 120. 120 P=RND(15) : The variable 'P' is assigned a random numeral by the random (RND) function. For our example we'll label 'P' as a 5 ,now we are at the point of our first 7 line program.

Instead of explaining this section and possibly confusing things I will allot A\$=W\$(p). This means A\$= the word in box W\$(P), remembering 'P' was assigned the number 5 so in W\$(5) is the word SCHOOL and A\$ now equals what was in box 5. Line 150 is PRINT@170,""; this is the starting point for our reversed word to be print and will be midway down the screen. Don't forget the semicolon.

The computer now runs through our small program and prints the word backwards.

Line 200 prompts the player to type the word

correctly, his/her answer is now stored in Z\$. Line 210 checks if Z\$ is the same as what is in W\$(P), our box 5. If he/she is correct the computer then GOs TO 310 (GOTO 310).

Here it prints "YOU GOT THAT ONE RIGHT" and line 330 counts the right answers, R=R+1 then moves onto line 250 to print the player's score.

In line 270 a check is made to find out the number of words that have been played, IF the sum of R+W>5 THEN GOTO 340. The check adds the Right and Wrong answers to find it's total. The wrong answers are added in line 220.

No other checks are need after line 210 because if Z\$ does't equal what is in W\$(P) then the answer must be wrong. The PRINT@192,"" in line 290 is used to wipe out what was left from the INPUT prompt, other wise part of the last word entered would be displayed and spoil the screen lay out.

The other small parts to the program don't need explaining as they are self explanatory with the prompts of PLAY AGAIN and extra PRINTs to space the display. Well thats our building block, and I will leave it up to you to improve on and make it more challenging to play. How could you make the game a challenge? Here's a tip, remove the INPUT and enter ....

```
200 Z$=INKEY$
201 t=t+1
202 PRINT@84,"timer"t;
203 IF Z$="" THEN 200
204 Z$=Z$
205 IF Z$=LEN(A$) THEN 210
206 GOTO 200
```

Until next time when we will look at DIM(#) statement used in another program.

```
0 GOTO10
1 '***** REVERSE *****
2 '***** TOM LEHANE *****
3 SAVE"89:3":END
10 CLEAR 100
20 DIM W$(15)
30 FOR X=1 TO 15
40 READ W$(X)
50 NEXT X
60 DATA VACUUM,CAMERA,COLUMN
70 DATA BANK,SCHOOL,CLEAR
80 DATA WAGON,PICTURE,LOTION
90 DATA BUTTER,ANTENNA,WARRIORS
100 DATA WEATHER,BALLOON,BEAR
```

```
110 CLS
120 P=RND(15)
130 A$=W$(P)
140 B=LEN(A$)
150 PRINT@170,"";
160 FOR X=B TO 1 STEP-1
170 PRINT MID$(A$,X,1);
180 NEXT X
190 PRINT
200 INPUT"TYPE WORD CORRECTLY";Z$
210 IF Z$=W$(P) THEN GOTO 310
220 W=W+1
230 PRINT:PRINT
240 PRINT"SORRY THE ANSWER IS "W$(P)
250 PRINT@35,"SCORE "R"RIGHT";
```

```
260 PRINT@67,"----- "W"WRONG";
270 IF R+W =>5 THEN GOTO 340
280 FOR TL=1 TO 1000:NEXT
290 PRINT@192,""
300 GOTO 120
310 PRINT:PRINT
320 PRINT"YOU GOT THAT ONE RIGHT
"
330 R=R+1:GOTO250
340 PRINT@416,"PLAY AGAIN (Y=YES
)";:INPUT R$
350 IF R$="Y" THEN RUN
360 CLS3:PRINT"THANKS FOR PLAYIN
G"
370 END
```

## AUSTRALIAN PRODUCT REVIEWS

continued from page 11

What I found so aggravating about this game is that it is so good. You're all ready to take its queen and lo and behold! it has three other pieces guarding it. If you do something really stupid you can "take back" so that you have a chance of not making the same mistake twice.

I really enjoyed this machine. It beating me only caused me to try harder and persistence paid off. I finally managed to beat it!

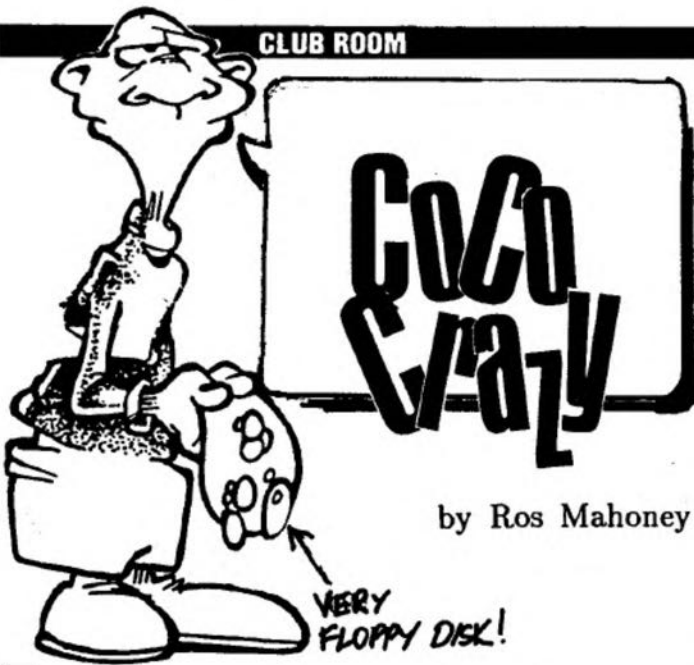
by Maurice Phillips

## CORRECTION

# Graphics



..... November's CoCo, Page 18 was by David Anderson not Andrew Simpson



by Ros Mahoney

truth, there is a well worn path to my wiz friend's place. He made me up a lead and I was away. I used our portable cassette player (after hours of twiddling volume and tone dials).

I burnt midnight oil like it was going out of style. My limit is playing games. I also flunked SKIPFing class. I have been doing my program searching the hard, slow way and only just learnt my SKIPFing lessons properly.

I have been CSAVEing my programs and have been very lucky as I was running them and de-bugging them before saving them. Talk about beginners luck!

I have spent many happy hours since, building up my RSI and expanding my BASIC (ha!ha!) knowledge.

I had a minor problem with my cassettes loading. Well quite frankly, they wouldn't! So after a long talk to Graham, I phoned my poor Tandyman (another costly phone call). He sent me another cassette player. After hours of fiddleing, our problem surfaced as a faulty connection cable. Wow!

Well, I'm happy to report that my family and I, after our shaky start, are progressing well with our CoCo. My five year old daughter, Jessica, has used an Apple 2 at school and runs the show here whenever she can, closely followed by Justin (four years old).

I would like to thank Graham and his crew for producing a top magazine. Also, thanks to contributors for great programs and views that have had my eyes hanging down my cheeks many times.

Pity there aren't more hours in a day! Ssince buying my CoCo I have cut down on intake of sleep, but I will survive and all for the sake of advancing technology. 'Till next time. Cheers!

HAVE FINALLY caught up with the school children and businessmen, and purchased my first computer. I have a friend who is a wiz at anything electronic, who recommended a CoCo. After a phone call to my nearest Tandy Store (over 700km away), I was the proud owner of, possibly, one of the last CoCo 2's available in Australia. I could hardly wait for it to arrive.

Hooray! It was here, but alas my Tandyman had forgotten to include my cassette player and cable to connect my CoCo to my TV screen! I tell you the

# GOLDLINK

by Johanna Vagg

## 16KECB

**G**OLDLINK was originally made by Alex some months ago in the Softgold section of CoCo. When I was up at CoCoConf I was asked by Graham to make my version of Alex's program for the CoCo. Well, here it is. Enjoy!

### The Listing:

```
0 GOTO10
1 'GOLDLINK LOGO
2 'ADAPTED FOR COCO BY
  JOHANNA VAGG FORBES
3 SAVE"GOLDLINK:3":END
10 CLEAR500
12 CLS:INPUT"WHICH PMODE (3 OR 4
  )";P
13 IF P<3 OR P>4 THEN 12
14 IF P=3 THEN S=0:C=4:F=2
15 IF P=4 THEN S=1:C=1:F=0
20 PMODEP:SCREEN1,S:PCLSC
```

```
30 COLORF,C
40 Z$="U3R6D3NL6"
50 X$="BR6"
60 Q$="U3R3D3L3BR6"
70 W$="BR3U3R3D3NL3"
80 DRAW"BM5,33"
90 DRAW X$+X$+X$+Z$+Z$
100 DRAW"BM5,36"
110 DRAW X$+X$+W$+Q$+X$+Z$+X$+X$
  +Z$+Z$+Q$
120 DRAW X$+Z$+Z$+X$+X$+Z$+Z$+Z$
  +Q$+X$
130 DRAW Z$+Z$+X$+X$+W$+Z$+X$+Z$
  +X$+X$+W$+Z$+X$+Z$+Q$+Z$+Q$
140 DRAW"BM5,39"
150 DRAWX$+X$+Z$+X$+X$+W$+X$+W$+
  X$+X$+W$+X$+X$+Q$+X$+X$+W$+X$+X$
  +W$+X$+X$+Q$+X$+X$+Q$+X$
160 DRAW W$+Q$+X$+X$+Q$+X$+W$+X$
  +W$
170 DRAW"BM5,42"
180 DRAW X$+W$+Q$+X$+X$+X$+X$+Q$
  +X$+X$+X$+Q$+X$+Q$
```

```
190 DRAW X$+X$+W$+X$+X$+X$+Q$+X$
  +Q$+X$+X$+X$+Q$+X$+W$+W$+X$+X$+Q
  $+X$+W$+X$+Q$
200 DRAW"BM5,45"
210 DRAW X$+W$+X$+X$+X$+X$+X$+Q$
  +X$+X$+X$+Q$+X$+Q$+X$+X$+W$+X$+X
  $+X$+W$+X$+Q$+X$+X$+X$+Q$+X$+W$
220 DRAW X$+Q$+X$+Q$+X$+W$+W$
230 DRAW"BM5,48"
240 DRAW X$+W$+Q$+X$+X$+X$+X$+Q$
  +X$+X$+X$+Q$+X$+Q$+X$+X$+W$+X$+X
  $+X$+W$+X$+Q$+X$+X$+X$+Q$+X$+W$
250 DRAW X$+W$+X$+Q$+X$+W$+Q$
260 DRAW"BM5,51"
270 DRAW X$+X$+Q$+X$+W$+Z$+X$+Q$
  +X$+X$+X$+Q$+X$+Q$+X$
280 DRAW X$+W$+X$+X$+X$+W$+X$+Q$
  +X$+X$+X$+Q$+X$+W$+X$+X$+Q$+Q$+X
  $+W$+W$
290 DRAW"BM5,54"
300 DRAW +X$+X$+Q$+X$+X$+Q$+X$+W
  $+X$+X$+W$+X$+X$+Q$+X$+X$+W$+X$+
  X$+X$+Q$+X$+Q$+X$+X$+X$+Q$+X$+W$
  +X$+X$+W$+Q$+X$
310 DRAW W$+X$+Q$
320 DRAW"BM5,57"
330 DRAW X$+X$+W$+X$+X$+Q$+X$+X$
  +Q$+X$+Q$+X$+X$+Q$+X$+Q$+W$+X$+X
  $+W$+X$+X$+Q$+X$+Q$+X$+Q$+X$+W$+
  X$+X$+W$+Q$+X$+W$+X$+W$
340 DRAW"BM5,60"
350 DRAW X$+X$+X$+Z$+Z$+Z$+X$+X$
  +W$+Z$+X$+X$+W$+Z$+Z$+Q$+Z$+Z$+Z
  $+Q$+X$+W$+Z$+Z$+Q$+W$+Z$+X$
360 DRAW Z$+Q$+X$+X$+Q$+X$+Z$+Q$
  +W$+Q$
370 EXEC44539
380 RUN
```

# SCOREBOARD

ANDROME	DOODLE BUG	MONSTER MAZE (Tandy)	RETURN OF THE JET-1
A. Voutsis Babinda 660440	Wayne Kely Ipswich 425970	Ian Reynolds Prospect 250840	Bernard Florence N.S.W. 272167
A. Oates Macquarie 72270	Leath Muller Townsville 124990	Neil Prince Forbes 8410	Lloyd Gold Coast 152996
Jim Ramsden Cabramatta 56855	Russell Lucas Kyabram 51910	MONIE ZOOMERS (Computer Hut)	Maurice Gold Coast 77295
ASTRO BLAST (Mark Data)	DOUBLE BACK (Tandy)	Mike Driscall Bowen 27650	ROBOT BATTLE (Spectral)
Mark De Wit Ipswich 91000	Ian Reynolds Prospect 351540	MOON SHUTTLE (Data Soft)	Michael Horn Gold Cst 9300
Wayne Kely Ipswich 89200	highest grab 140870	David Thurbon Canberra 27700	Alex Hartmann Gold Cst 4900
Leath Muller Townsville 82375	The Caped Avenger Roma 157670	MR DIG	R Boxall L0/4850
ASTRO LANDER (CoCo Software)	highest grab 63660	Leigh Eames Emerald 1132250	ROMAN CHECKERS
R Boxall 4250	DRACONIAN (Tom Mix)	MS GOBBLER (Spectral)	Chris Nagle Condobolin 62
ATOM (Tandy)	Mark De Wit Ipswich 425900	Wayne Kely Ipswich 13760	Richard Pankhurst Rsvll 60
Richard Baker NSW round.2 - Rh	Wayne Dunlop Werribee 143300	Alan Mansfield Quoiba 8760	SAILOR MAN (Tom mix)
David Thurbon round.1 - xe	Wayne Kely Ipswich 120750	Ken Uzzell Roseville 8490	Bernard Florence N.S.W. 647800
BAGITMAN	EZSKI (Chomasette)	Michael Horn Gold Coast 6250	Hazel McGuinness Coota 445100
Ken Dunlop Werribee 227950	Wayne Kely Ipswich 49274	NINJA WARRIOR	Michael Cowie Coota 132900
Wayne Dunlop Werribee 214990	David Aubrey 24056	Mark De Wit Ipswich 51500	SCEPTER
BEAM RIDER (Spectral)	Chris Nagle Condobolin 19896	Paul Conroy Brisbane 41500	Ian Choat O'Connell
Kieran Power Duffy 1207360	CHRIS NAGLE (Adventure Intl.)	Stephen Price Brisbane 38700	Won in 7 min. 47 sec.
Tony Evans Bowen 483060	FIRECOFTIER (Adventure Intl.)	OUTHOUSE (Comp Shack)	Ken Uzzell Roseville
David Thurbon Canberra 83530	R Boxall 69152	Richard Pankhurst Rsvll 8126	Won in 21min. 51 sec.
BLOCKHEAD (Computerware)	FEMBOTIS REVENGE	FEANUI BUTTER PANIC	SEA QUEST (Mark Data)
Paul Harris Minto 234675	Wayne Kely Ipswich 5150	Melissa Blackhall NSW 152	J Dougan & J Gans Bris 165
Grant Menner Parkwood 67550	Iony Evans Bowen 4750	Melissa Gransden NSW 152	J Holt Glen Iris 150
Michael Horn Gold Cst 29825	Richard Pankhurst Rsvll 1050	PENGON	Darren Reed Watsonia 100
BREWMASTER (Tom Mix)	FLYBY (Chomasette)	Chris Nagle Condobolin 36610	SHARK (Computerware)
Hazel McGuinness NSW 99075	David Coleman Yeronga 32000	PHANION SLAYER	Alan Mansfield Quoiba 90000
Wayne Dunlop Werribee 95600	FROGGER (Tandy)	Russell Lucas Kyabram 140	C. Voutsis Babinda 52000
Lynne Barrett Muttama 79450	Damien Ryan Riverhills 44495	PINBALL (Tandy)	SHENANIGANS (Mark Data)
BUST CUT (Tandy)	Jason Ryan Riverhills 32885	Ian Choat O'Connell 174950	J Gans Bris 112
The Caped Avenger Roma 3646	Patrick Van Brakel Prkvl122055	PIPE LINE (Rainbow)	Carla Miller Burwood V 148
A. Voutsis Babinda	FROG TREK	Wayne Kely Ipswich 1072	SHOOTING GALLERY (Tandy)
20 Balls 7634	S. Oates Maquarie 17450	Leath Muller Townsville 978	John Bollans Perth 67320
Richard Pankhurst Roseville	A. Oates Maquarie 12580	A. Oates Macquarie 811	C. Hinton & Q Hill NSW 54310
20 Balls 2490	Darren Reed Watsonia 9770	S. Oates Macquarie 454	Sharon Avery Woy Woy 52700
BUZZARD BAIT (Tom Mix)	GALACTIC ATTACK (Tandy)	PLANET INVASION (Spectral)	SKILING (Tandy)
Unknown 168500	Greg & Ian Choat O'Connell 129680	Lachlan Mead Bomaderry 90450	Paul Conroy Brisbane 0:32:49
Lynne Barrett Muttama 99250	Ian Choat O'Connell 42160	A. Voutsis Babinda 85000	Jack Rae Mt Isa 0:36:00
Yvette Barrett Muttama 15550	A. Voutsis Babinda 36240	David Coleman Yeronga 48500	SKRANBLE (Tom Mix)
GALIXIO (Mark Data)	GALAX ATTACK (Spectral)	POLARIS (Tandy)	Stephen Price Brisbane 101490
J Gans Eris 162	Wayne Kely Ipswich 139400	Chris Nagle Condobolin 55760	Ian Choat O'Connell 90040
CANYON CLIMBER (Tandy)	Steven Penzo Rye 138349	Neil Prince Forbes 13040	Michael Elliott Brisbane 72920
Groucho Roma 12000000	A. Oates Macquarie 48550	POLTERGEIST (Tandy)	SFACE ASSULT (Tandy)
Michelle Avery Woy Woy 882800	S. Oates Macquarie 28950	Bernard Florence Croydon 4955	Paul Harris Minto 40290
CASHMAN (Comp Shack)	GHOST GOBBLER (Spectral)	Unknown 4955	Nick Cooper 16949
Wayne Kely Ipswich 17750	Stuart Sanders 118510	Michael Elliot Brisbane 4895	Darren Reed Watsonia 10430
Leath Muller Townsville 13350	Ian Choat O'Connell L10/94640	POOYAN (Datasoft)	SPACE RACE (Spectral)
Richard Pankhurst Rsvll 6640	A. Voutsis Babinda 84800	Michael Popp Toowoomba 1400000	Stephen Price Brisbane 51375
CAVERN COFTIER (Rainbow)	A. Oates Macquarie L15 9440	Unknown 365400	Michael Horn Gold Cst 33875
Richard Pankhurst Rsvll 1509	ICELOCK	POPCORN (Tandy)	Brendan Gay Gold Cst 29400
CHOPPERSTRIKE (Comp Shack)	Richard Pankhurst Rsvll 58610	Chris Nagle Condobolin 290000	SPACE SENTRY
Ken Uzzell Roseville 25300	JUNIOR'S REVENGE (ComputerWare)	Allan Ree Mt Isa 56770	Paul Harris Minto 2067300
CLOWNS (Tandy)	Andrew Law Sunbury 325100	PROJECT NEBULA (Tandy)	SPACE SHUTTLE (Tom Mix)
A. Voutsis Babinda 83160	KATAPILLAR ATTACK (Tom Mix)	Paul Simpson 540	Lachlan Mead Bomaderry 515
Paul Harris Minto 30420	Chris Nagle Condobolin 12681	Michael Horn Gold Coast 410	Tony Evans Bowen 491
Darren Reed Watsonia 20950	Stephen Price Brisbane 9457	Ken Uzzell Roseville 255	Richard Pankhurst Rsvll 344
COLORFEDE	Steven Marks Yanco 9412	PROTECTOR (Tom Mix)	SPEED RACER (Spectral)
Wayne Dunlop Werribee 567201	KOMET KAZE (Color Quest)	Andrew Law Sunbury 165322	Leath Muller Townsville 93840
David Abley Werribee 206534	Ken Uzzell Roseville 14000	Steven Bullock Roseville 1589	Michael Horn Gold Cst 93520
CRYSTAL CASTLES	LANCER (Spectral)	PYRAMID (Tandy)	SR-71-201 (Tom Mix)
Unknown 534297	Wayne Kely Ipswich 572700	Simon Cox Dubbo 220	Simon Cox Dubbo
DEFENSE (Spectral)	Paul Simpson Miles 201900	Darren Reed Watsonia 220	1 mile from Target
Paul Harris Minto 47255	LASERWORM (Rainbow)	J Gans Bris 200	STARFIRE (Intellectronics)
Michael Horn Gold Cst 43650	Nick Cooper 58745	QIXS (Spectral)	Andrew Law Sunbury 65000
Richard Pankhurst Rsvll 31730	Leath Muller Townsville 30862	Hazel McGuinness Coota 97164	STELLAR LIFELINE (Tandy)
DEMON ASSULT (Aardvack)	Glynn Catherall Gld Cst 30366	Lynne Barrett Muttama 56172	Paul Harris Minto 42110
Paul Harris Minto 2076600	LEMANS	Michael Cowie Coota 24672	SUB HUNT
Richard Pankhurst Rsvll 31250	A. Voutsis Babinda 55 Secs	QUASER	Warren Macintosh Rsvll 5135
DEMON SEED (Comp Shack)	LUNAR ROVER PATROL (Spectral)	Richard Pankhurst Rsvll 87	SANDS OF EGYPT (Tandy)
Ken Uzzell Roseville 11350	Wayne Kely Ipswich L-Exp84900	RAAKATU (Tandy)	Richard Pankhurst Roseville
DEVIL ASSULT (Microdeal)	L Vanjour & Q Hill NSW 75300	Mike Thayer Toowoomba 50	127 Turns
Hazel McGuinness Coota 173900	Wayne Dunlop Werribee 60750	Simon Cox Dubbo 50	TEMPLE OF ROM (Tandy)
DEVIOUS (Spectral)	MEGABUG (Tandy)	Richard Pankhurst Rsvll 50	A. Oates Macquarie 484800
R Boxall 28820	Lori Lehane Penrith 19540	RADIO BALL (Tandy)	Wayne Kely Ipswich 370100
DORKEY KING (Tom Mix)	A. Voutsis Babinda 10294	Hazel McGuinness Coota 1300300	Hazel McGuinness Coota 165400
A. Voutsis Babinda 315000	MICROBES (Tandy)	Paul Harris Minto 1004950	S. Oates Macquarie 162400
Stuart Sanders Mt Hawthorn 113100	A & S Oates Macquarie 212760	Michael Cowie Coota 673910	Michael Cowie Coota 100900
	Andrew Willie Somerset 185550	Karen Cowie Coota 617450	TIME BANDIT (Michtron)
	Paul Harris Somerset 140700	REACTOIDS (Tandy)	Henry Rooms Millicent 289920
		Georgia Voutsis Babinda 1200000	

continued on page 29

# HI-DICE

PROGRAMS



by Tom Lehane  
16K CB GAME

**H**IGH DICE IS a very fast counter game and the object of the game is simply cast a higher dice total than the banker. The game is an even-up proposition except for any dice roll total that ties, which constitute the house percentage. Both you and the banker in this computer game start with \$1000.00. The least amount you can bet is \$1.00 and the highest is \$100.00. The game ends when either you decide to or when the banker or you go broke. A text screen print out of your account will show how you fared at the end of the game. Hi-Dice is also known as Bingo and Beat the Banker and is sometimes played in hotel bars where the house percentage buys the drinks.

## The Listing:

```
0 GOTO10
1 '***** HI DICE *****
2 '***** TOM LEHANE *****
3 SAVE"98:3":END
10 CLS:PRINT@140,"HI-DICE"
20 PRINT:PRINTAB(7)"NEED INSTRU
CTIONS"
30 PRINT:PRINTAB(11)" Y = YES"
40 PRINT@356,CHR$(139)+CHR$(129)
"OM"
50 PRINT@390,CHR$(132)"EHANE (19
86)"
60 I$=INKEY$: IF I$="" THEN K=RND(
12):GOTO 60
70 IF I$="Y" THEN GOSUB 1110
80 CLS 3
90 ZZ=74
100 PB=1000
110 HB=1000
120 PRINT@257,"BANK ";
130 PRINT@276,"BANK ";
140 PRINT@12,"HI DICE";
150 IF HB=2000 OR PB=2000 THEN G
OTO 910
160 PRINT@65," BANKER ";
170 PRINT@84," PLAYER ";
180 PRINT@129,"DICE TOLAL";
190 PRINT@161," "BB" ";
```

```
200 PRINT@148,"DICE TOTAL ";
210 PRINT@180," "S" ";
220 PRINT@225,"BANKER'S ";
230 PRINT@244,"PLAYER'S ";
240 GOSUB 890
250 FOR Y=1 TO 200
260 PRINT@ZZ,CHR$(RND(4)+145);
270 NEXT
280 BANKER=BA+1
290 FOR X=109 TO 173 STEP 32
300 PRINT@X," ";
310 PRINT@X+131," ";
320 NEXTX
330 K=RND(6)
340 ROLL=ROLL+1
350 IF ROLL=1 THEN X=109
360 IF ROLL=2 THEN X=240
370 ON K GOTO 410,380,410,380,41
0,510
380 PRINT@X,"*";:PRINT@X+66,"*";
390 IF K=4 OR K=5 OR K=6 GOSUB 4
90
400 GOTO 440
410 PRINT@X+33,"*";
420 IF K=3 THEN 380
430 IF K=5 GOTO380
440 ' PRINT@232,K;
450 '
460 IF ROLL=2 THEN GOSUB 530
470 A=K
480 GOTO 330
490 PRINT@X+2,"*";:PRINT@X+64,"*
";
500 RETURN
510 PRINT@X+32,"* *";
520 GOTO 380
530 S=A+K
540 IF BA=1 THEN 620
550 IF BA>1 THEN 730
560 PRINT@352,""
570 FOR WIPE=1 TO 3
580 SOUND200,1:PRINT
590 NEXT WIPE
600 RETURN
610 '
620 BB=S:S=0
630 PRINT@164,BB;
640 GOSUB 560
650 IF BB=12 THEN 1000
660 PRINT@352,"YOU WILL NEED"
670 PRINT"A DICE TOTAL OF ("BB+1
") OR MORE... TO WIN"
680 INPUT"PLACE YOU BET $";W
690 IF W<1 OR W>100 THEN 1050
700 ROLL=0
710 ZZ=ZZ+20
720 GOTO 250
730 GOSUB 560
740 PRINT@184,S;
750 PRINT@352,""
760 IF BB>S THEN PRINT" YOU LOSE
":GOTO 830
770 IF BB=S THEN PRINT"FOR HOUSE
":GOTO 840
780 IF BB<S THEN PRINT"YOU win":
```

```
GOTO 870
790 PRINT@416,"ANOTHER TRY";
800 X$=INKEY$: IF X$="" THEN 800
810 IF X$="N" THEN 910
820 ZZ=74:BA=0:S=0:BB=0:RO=0:GOT
O140
830 PB=PB-W:HB=HB+W:GOSUB 890:GO
TO790
840 AV=W/100:H=AV*10
850 PB=PB-H:HB=HB-H
860 GOSUB 890:GOTO 790
870 PB=PB+W:HB=HB-W
880 GOSUB 890:GOTO 790
890 PRINT@261,HB;:PRINT@281,PB;
900 RETURN
910 CLS:PRINTAB(7)"HOUSE STATEM
ENT"
920 FOR Y=96 TO 127:PRINT@Y,CHR$
(131):NEXT
930 PRINT"YOU STARTED WITH $1000
":PRINT:PRINT"AND FINISHED WITH
$"PB
940 PRINT
950 PRINT"BANKER'S TOTAL..$"HB
960 PRINT
970 PRINT"HOUSE % ..$"H
980 IF PB=2000 OR HB=2000 THEN P
RINT"GAMES LIMIT HAS BEEN REACHE
D"
990 GOTO 990
1000 GOSUB 560:PRINT@352,"THE DI
CE COUNT IS ... 12"
1010 PRINT"TO HIGH FOR A BET .."
1020 PRINT"PRESS ANY KEY FOR A R
ESTART"
1030 IF INKEY$="" THEN1030
1040 GOTO 820
1050 GOSUB 560
1060 PRINT@352,"note THE BET MUS
T BE NO SMALLER":PRINT"THAN $1.0
0"
1070 PRINT"AND NO LARGER THAN $1
00.00"
1080 FOR Y=1 TO 200
1090 PRINT@460,CHR$(RND(4)+128);
1100 NEXT:GOSUB 560:GOTO 660
1110 ' INSTRUCTIONS
1120 CLS
1130 PRINT"hi dice..BANKER ROLLS
FIRST.."
1140 POKE1026,45
1150 PRINT"THE OBJECT OF THE GAM
E IS TO":PRINT"CAST A HIGHER TOT
AL THAN THE "
1160 PRINT"BANKER. THE GAME IS A
N EVEN-UP":PRINT"PROPOSITION EXE
CPT FOR ANY DICE"
1170 PRINT"ROLL THAT TIES WHICH
CONSTITUTE":PRINT"THE HOUSE PERCE
NTAGE. BOTH YOU"
1180 PRINT"AND THE BANKER START
WITH $1000":PRINT"THE LEAST YOU
CAN BET IS $1.00"
1190 PRINT"AND THE HIGHEST IS $1
00.00 ":PRINT"THE GAME ENDS WHEN
YOU DECIDE TO";
1200 PRINT"OR WHEN BANKER OR YOU
GO BROKE.":PRINT"A PRINT OUT OF
THE HOUSE ACCOUNT";
1210 PRINT"WILL SHOW HOW MUCH YO
U HAVE"
1220 PRINT"WON OR LOST."
1230 INPUT"-- PRESS ENTER TO STA
RT=-";A
1240 RETURN
```

CoCo

16K CoCo or MC-10

# CHEMISTRY WITH BOB

by Bob Hillard

**A** DIFFERENT type of educational program from another new contributor. In this Bob has made an interesting method for chemistry students to check themselves out on chemical formulae and to help learning by questions and answers. After two wrong tries you are given the correct answer.

This has a greater learning potential than trying to memorise from a text book. To suit individual tastes, many more formulae may be added. All instructions are contained within the listing.

## The Listing: CHEM FOR

```
1 E0$="PRESS (enter) TO CONTINUE
  ":DIMN$(29),F$(29),F$(2)
2 CLS:PRINT@70,"chemical formulae":PRINT@143,"BY":PRINT@201,"BOB HILLARD":PRINT@354,E0$:INPUT#
4 P$(1)="give formula of each:-"
  :P$(2)="name these compounds:-"
  :SC$=" you scored ":K$=" out of
  4"
6 GOSUB100
8 CLS:PRINT@32,"A PROGRAM TO TEST YOUR KNOWLEDGE":PRINT@OF COMPOUNDS AND THEIR FORMULAE."
9 PRINT@193,"FOUR COMPOUNDS WILL BE CHOSEN":PRINT@256,"YOU (enter) THE NAME OR FORMULA":PRINT@385,E0$:INPUT#
28 CLS:PRINT@98,"TYPE YOUR ANSWER IN THE FORM (NH4)2SO4 FOR AMMONIUM SULFATE OR CO2 FOR CARBON DIOXIDE"
30 PRINT@353,E0$:INPUT#;CLS
32 PRINT@32,"CHOOSE FROM TWO PROGRAMS :-":PRINT@128,"1.NAME DISPLAYED:- enter FORMULA ":PRINT@2.FORMULA DISPLAYED:- enter NAME "
34 PRINT:PRINT"IF YOU MAKE AN ERROR control a WILL REMOVE IT":PRINT@452,:INPUT"(enter) 1 OR 2 ":P:CLS:K=0:V=64
36 IFF<1THEN34
37 IFF>2THEN34
38 PRINTP$(P)
40 FORI=1TO4
42 J=RND(29):T=1:IFF=1THEN50
46 IFF=2THEN70
50 PRINT@V,N$(J)
52 INPUTF1$
54 IFF1$=F$(J)THENPRINT@V,N$(J):PRINT@V+32,"":PRINT@V+48,F$(J):PRINT@V+55,"correct..":V=V+96:K=K+1:GOTO90
56 IFT=1THENPRINT@V+34," SORRY, TRY AGAIN":T=T+1:GOTO52
58 IFT=2THENV=V+64:PRINT@V,"":PRINT@V+5,"WRONG:- THE ANSWER..":F$(J)
```

```
60 V=V+32:GOTO90
70 PRINT@V,F$(J)
72 INPUTN1$
74 IFN1$=N$(J)THENPRINT@V,F$(J):PRINT@V+36,N$(J):PRINT@V+55,"correct..":V=V+96:K=K+1:GOTO90
76 IFT=1THENPRINT@V+36,"SORRY, TRY AGAIN":T=T+1:GOTO72
78 IFT=2THENPRINT@V,F$(J):PRINT@V+7,N1$:PRINT@V+32," WRONG:- THE ANSWER..":PRINT@V+64,"":PRINT@V+78,N$(J):V=V+96:GOTO90
90 NEXTI
91 IFK<4THENPRINT@V+32,SC$;K;K$:FORTD=1TO3000:NEXT
92 IFK<4THENPRINT@V,:INPUT"COPY CORRECT ANSWERS FOR THOSE YOU MISSED:- THEN PRESS enter":E$:GOTO96
94 S=RND(99):C=RND(9)-1:CLS(C):FOR ORS=STO240STEP3:SOUNDS,1:H=RND(64)-1:V=RND(32)-1:C=RND(9)-1:SOUNDS,1:SETH,V,C:NEXT
95 CLS(C):PRINT@224,SC$;K;K$:FORTD=1TO4000:NEXT
96 CLS:PRINT@161,"PRESS 'v' TO RUN PROGRAM AGAIN ":PRINT" PRESS ANY OTHER KEY TO RETURN TO TITLE FRAME"
97 A$=INKEY$:IFA$=""THEN97
98 IFA$="Y"THEN32
99 GOTO2
100 FORJ=1TO29:READF$(J),N$(J):NEXT
102 DATA"NH3","AMMONIA"
103 DATA"CO2","CARBON DIOXIDE"
104 DATA"CO","CARBON MONOXIDE"
105 DATA"NO2","NITROGEN DIOXIDE"
106 DATA"SO2","SULFUR DIOXIDE"
107 DATA"SO3","SULFUR TRIOXIDE"
108 DATA"HNO3","NITRIC ACID"
109 DATA"H2SO4","SULFURIC ACID"
110 DATA"H2CO3","CARBONIC ACID"
111 DATA"H3PO4","PHOSPHORIC ACID"
112 DATA"H2O","WATER"
113 DATA"K2O","POTASSIUM OXIDE"
114 DATA"K2S","POTASSIUM SULFIDE"
115 DATA"KI","POTASSIUM IODIDE"
116 DATA"K2SO4","POTASSIUM SULFATE"
117 DATA"KNO3","POTASSIUM NITRATE"
118 DATA"K3N","POTASSIUM NITRIDE"
119 DATA"H2S","HYDROGEN SULFIDE"
120 DATA"HI","HYDROGEN IODIDE"
121 DATA"HF","HYDROGEN FLUORIDE"
122 DATA"NH4I","AMMONIUM IODIDE"
123 DATA"NH4F","AMMONIUM FLUORIDE"
124 DATA"B2O3","BORON OXIDE"
125 DATA"B2S3","BORON SULFIDE"
126 DATA"BF3","BORON FLUORIDE"
128 DATA"CH4","METHANE"
129 DATA"BP04","BORON PHOSPHATE"
130 DATA"BP","BORON PHOSPHIDE"
131 DATA"PH3","PHOSPHINE"
199 RESTORE:RETURN
```

# SCOREBOARD

continued from page 27

Hazel McGuinness	Coota	141170
Lachlan Mead	Bomaderry	104670
TOUCHSTONE		
Paul Conroy	Brisbane	69160
Mark Conroy	Brisbane	61880
Barnabas Hood	Brisbane	60640
TRAPPALL (Spectral)		
A.Oates	Macquarie	113214
Chris Nagle	Condobolin	100244
Paul Harris	Minto	62830
TUT (Aardvark)		
Keith Savage		99430
TUT'S TOMB (Mark Data)		
Tony Evans	Bowen	53280
Barry Tomkinson	Tregear	29840
Alex Hartmann	Gold Cst	24680
VIKING		
Ken Uzzell	Roseville	
	King in 16 years	
WHIRLYBIRD RUN (Spectral)		
Lachlan Mead	Bomaderry	94200
Eddie Driscoll	Bowen	81300
Leath Muller	Townsville	61800
WILDCATTING (Image Producers)		
Colleen James	Gold Cst	39169
R Boxall		34692
Michael Horn	Gold Cst	34151
ZAKSUND (Elite)		
Leath Muller	Townsville	412850
Nick Cooper		136050
Jeff Wetzig		97100
ZAXXON (Tandy)		
Russell Scott	Traralgon	144100
Mike Fitzpartrick	S.A.	118700
The Caped Avenger	Roma	128600
ZONX (Australian Rainbow)		
Mark De Wit	Ipswich	17900
David Aubrey		15900
Frank Draga	S.A.	13800
MICO GAMES		
BREAKOUT		
David Hill	Oakville	3176
Justin Westley	Dapto	968
BOMB RUN		
David Hill	Oakville	1300
Juliette Hill	Oakville	400
EGGS		
David Hill	Oakville	5455
Justin Westley	Dapto	1060
MISSILE		
Juliette Hill	Oakville	80
David Hill	Oakville	70
Jeanette Hill	Oakville	60
WORM CHASE		
David Hill	Carina	123270
Justin Westley	Dapto	3990
Juliette Hill	Oakville	3960
T1000 GAMES		
DEMON ATTACK (Tandy)		
Jenny Dutton	Carina	1120

(Note: Most non-Tandy games are available from the Computer Hut in Bowen, Qld, or their agents)

# A FRIGHTFULLY GOOD TIME!

by Jose Bray

16K CoCo or MC-10



**F**ROM TIME to time we seem to get ourselves trapped in the position of being locked in dungeons, fighting off the baddies, rescuing maidens in distress or just managing to escape with our lives. Sometimes we even get killed in the process.

This is another one which gives you the options on where to die or escape and options on how you can do it.

Best of luck!!

The Listing: TD11

```

1 CLS@:PRINT@66,"TERROR OF DOOM
  11";:PRINT@132,"BY JOSE BRAY,RYA
  N SELBY AND CROMWELL MONTGOM
  ERY";
2 FORX=@T03@:Y=INT(RND(@)*8)+1:S
  ET(X,Y):SET(63,X,Y):NEXTX
3 FORX=@T062:Y=INT(RND(@)*8)+1:S
  ET(X,Y):SET(X,3@,Y):NEXTX
4 SOUND 200,3
5 FORX=1T0100@:NEXT X:CLS
6 FORX=1T0100@:NEXT X:CLS@
10 PRINT "WHO DARES DISTURB ME":
  INPUT NAME$
12 PRINT "WELCOME TO THE CAVERNS
  OF PAIN":PRINT NAME$
13 PRINT "YOU MAY DO ONE OF THE
  FOLLOWING:"
14 PRINT "  A - THE CAVERN OF P
  AIN":PRINT "  B - DOOM DUNGEON"
  :PRINT "  C - THE HOT PIT"
15 INPUT ABC$:IF ABC$="A" THEN 2
  @
16 IF ABC$="B" THEN 1400
17 IF ABC$="C" THEN 385@
18 GOTO 14
20 PRINT "YOU ARE A PALADIN WHO
  WAS CAPTURED, YOU MUST ESCAPE FR
  OM THE CLUTCHES OF THE EVIL DRAG
  ON TIAMAT"
30 PRINT "YOU ARE ABOUT TO BE EX
  ECUTED, YOU MUST ESCAPE IN 24 HO
  URS"
40 PRINT "DO YOU WANT TO...."
50 PRINT "  1 - WAIT UNTIL THE
  GUARD COMES"
60 PRINT "  2 - TRY TO ESCAPE N
  OW"
70 INPUT O$
80 IF O$="1" THEN 110
90 IF O$="2" THEN 300
100 PRINT "I NEED A 1 OR 2 ANSWE
  R. TRY AGAIN"
105 GOTO 70
110 PRINT "YOU WAIT UNTIL THE GU
  ARD COMES HE COMES WITH A PREIST
  , HE COMES TO PRAY FOR YOU."
120 PRINT "DO YOU WANT TO .."
130 PRINT "  A - WAIT UNTIL THE
  PRIEST LEAVES AND TAKE THE GUAR
  DS WEAPONS"
140 PRINT "  B - WAIT UNTIL THE
  GUARD LEAVES AND TAKE THE PRIES
  T'S GARMENTS"
150 INPUT P$
160 IF P$="A" THEN 190
170 IF P$="B" THEN 320
181 GOTO 150
190 PRINT "THE PRIEST LEAVES AND
  YOU TRY TO...."
200 PRINT "  1 - JUMP ON THE GU
  ARD"
210 PRINT "  2 - WAIT"
220 INPUT Q$
230 IF Q$="1" THEN 270
240 IF Q$="2" THEN 500
250 PRINT "I NEED A 1 OR 2 ANSWE
  R. TRY AGAIN"
260 GOTO 220
270 PRINT"AFTER YOU JUMP ONH HIM
  MORE GUARDS COME ONE OF THEM HO
  LDS YOU WHILE ANOTHER EATS YOU A
  LIVE!"
280 PRINT "THE REST IS TOO GRUSU
  M TO DESCRIBE."
290 GOTO 1000@
300 PRINT "YOU CAN'T DO ANYTHING
  ."
310 GOTO 40
320 PRINT "THE GUARD LEAVES AND
  THE PRIEST MUMLES A PRAYER"
330 PRINT "THEN YOU..."
340 PRINT "  1 - JUMP ON HIM"
350 PRINT "  2 - FORGET IT"
355 INPUT R$
360 IF R$="1" THEN 400
370 IF R$="2" THEN 430
380 PRINT "I NEED A 1 OR 2 ANSWE
  R. TRY AGAIN"
390 GOTO 340
400 PRINT "THE PRIEST YELLS SINN
  ER!!"
410 PRINT "YOU STRIP HIM AND PUT
  HIS CLOTHES ON YOURSELF AND WAL
  K OUT"
420 PRINT "ON A SCALE OF 1 TO 5
  YOUR RANKING ON THIS GAME
  IS A 5"
423 SOUND 200,3
425 GOTO 2000@
440 GOTO 1000@
500 PRINT "CAN'T WAIT!":GOTO220
1400 CLS:PRINT:PRINT "WELCOME ST
  RANGER!":PRINT"YOU HAVE THE FOL
  LOWING WEAPONS:A SWORD,SPEAR,DAG
  GER,AND A BOW AND ARROW."
1410 PRINT"YOU ARE WALKING IN A
  BIG DUNGEON"
1420 PRINT "AS YOU WERE WALKING
  A GIANT SPIDER JUMPS DOWN"
1430 PRINT "WHICH WEAPON DO YOU
  USE TO KILL THE BEAST"
1440 PRINT "----1 - SPEAR"
1450 PRINT "----2 - BOW AND ARROW
  "
1460 PRINT "----3 - DAGGER"
1470 INPUT K$
1480 IF K$="1" THEN 1530
1490 IF K$="2" THEN 1810
1500 IF K$="3" THEN 2000
1510 PRINT "TRY AGAIN!"
1512 GOTO 1470
1530 PRINT "YOU STICK THE SPEAR
  INTO THE SPIDERS HEAD"
1540 PRINT "AS YOU WATCH THE SPI
  DER DIE YOU STAB IT AGAIN TO MAK
  E SURE IT'S DEAD"
1550 PRINT "YOU START TO WALK AG
  AIN IN THE DUNGEON"
1560 PRINT "AS YOU WERE WALKING
  YOU SEE TWO CRYSTALS"
1570 PRINT "DO YOU WANT TO PICK
  UP ONE OF THE CRYSTALS OR JUST
  LEAVE THEM ALONE AND GO DOWN TH
  E CORRIDOR"
1580 PRINT "----1 - KEEP WALKING"
1590 PRINT "----2 - PICK UP A CRY
  STAL"
1600 INPUT L$
1610 IF L$="1" THEN 1640
1620 IFL$="2" THEN 1850
1630 PRINT "TRY AGAIN"
1632 GOTO 1600
1640 PRINT "YOU START WALKING DO
  WN THE CORRIDOR"
1650 PRINT "SUDDENLY":FORX=1T07@
  @:NEXTX:PRINT "WHILE YOU WERE WA
  LKING A MINOTAUR JUMPS OU

```



```

T WITH A HUMAN HEAD IN IT'S);
1652 PRINT " HAND"
1653 PRINT "PRESS<ENTER>!" :INPUT
ZX#
1660 PRINT "THE MINOTAUR DROPPED
THE HEAD AND WAS SET TO DO BA
TTLE!"
1670 PRINT "YOU TAKE OUT YOUR DA
GGER AND SWING AT IT"
1680 PRINT "THE BEAST BLOCKS IT
WITH HIS BATTLE AXE."
1681 FORX=1T01000:NEXTX
1690 PRINT "IT SWINGS AT YOU WIT
H IT'S BATTLE AXE!!"
1700 PRINT "THE MINOTAUR MISSES
YOU BY A HAIR"
1710 PRINT "WHAT WEAPON ARE YOU
GOING TO USE TO ATTACK IT"
1720 PRINT "----1 - SPEAR"
1730 PRINT "----2 - BOW AND ARROW"

1740 PRINT "----3 - DAGGER"
1750 INPUT M#
1760 IF M#="1" THEN 2040
1770 IF M#="2" THEN 2070
1780 IF M#="3" THEN 3020
1790 PRINT "TRY AGAIN"
1800 INPUT #
1810 PRINT "YOU CAN'T LOAD YOUR
BOW IN TIME "
1820 PRINT "THE SPIDER BITE YOU
IN THE HEAD"
1830 PRINT "YOU FALL DOWN DEAD"
1840 GOTO 10000
1850 PRINT"WHAT COLOR CRYSTAL DO
YOU PICK UP"
1860 PRINT"---1 - BLUE CRYSTAL"
1870 PRINT"---2 - RED CRYSTAL"
1880 INPUT#
1890 IF N#="1" THEN 1930
1900 IF N#="2" THEN 1960
1910 PRINT "TRY AGAIN"
1920 GOTO 1880
1930 PRINT"YOU PICK UP THE CRYST
AL"
1940 PRINT "ALL OF THE SUDDEN" :F
ORX=1T0700:NEXTX:PRINT "YOU STAR
T TO DISENTEGRATE!!!!"
1950 GOTO 10000
1960 PRINT "YOU PICK UP THE CRYST
AL"
1970 PRINT "WHILE YOU WERE STUDY
ING THE CRYSTAL A POISONOUS
GAS COMES OUT"
1980 PRINT "YOU SLOWLY DIE"
1990 GOTO 10000
2000 PRINT "YOU TAKE OUT YOUR DA
GGER"
2010 PRINT "YOU STAB THE SPIDER
IN THE BACK"
2020 PRINT "THE SPIDER DIES!"
2030 GOTO 1640
2040 PRINT"YOU STAB THE MINOTAUR"

2050 PRINT "IT DIES!"
2060 GOTO3040
2070 PRINT "YOU FIRE AT THE MINO
TAUR"
2080 PRINT "YOU MISS HIM BY A MI
LE"
2090 PRINT "THE MINOTAUR SWINGS
AT YOU"
3000 PRINT"IT LOBS OFF YOU HEAD"
3010 GOTO 10000
3020 PRINT "YOU SWING AT THE BEA
ST, IT DUCKS"
3030 GOTO2090
3040 PRINT "YOU START TO WALK"
3050 PRINT"WHILE YOU WERE WALKIN
G TIAMAT FLIES DOWN"
3060 PRINT "YOU FIRE TWO ARROWS
AT HER WHITE DRAGON HEAD"
3070 PRINT "THE DRAGON PUTS A SH
IELD SPELL TO BLOCK THE ARROW"
3080 PRINT "THE DRAGON BREATHS F
IRE AT YOU!"

3090 PRINT "SHE MISSES YOU BY A
HAIR!!!!!"
3100 PRINT"WHICH WEAPON DO YOU U
SE TO ATTACK HER"
3110 PRINT "----1 - SPEAR"
3120 PRINT "----2 - BOW AND ARROW"

3130 PRINT "----3 - DAGGER"
3140 INPUT0#
3150 IF0#="1" THEN 3200
3160 IF 0#="2" THEN 3250
3170 IF0#="3" THEN 3200
3180 PRINT"TRY AGAIN!"
3190 GOTO3140
3200 PRINT "YOU USE YOUR WEAPON
AT THE DRAGON"
3210 PRINT "YOU MISS THE DRAGON'
S HEAD"
3220 PRINT"SHE BREATHS ALL OVER
YOU WITH ALL OF HER BREATH WEA
PONS"
3230 PRINT"YOU ARE OBVIOUSLY DEA
D!"
3240 GOTO 10000
3250 PRINT"YOU FIRE TWO ARROWS A
T THE WHITE DRAGON'S HEAD AGAIN"
3260 PRINT "BOTH OF THE ARROWS H
IT THE HEAD"
3270 PRINT "IT KILLS THE WHITE D
RAGON HEAD"
3280 PRINT"YOU STILL HAVE FOUR M
ORE HEADS TO GO, TO KILL THE DR
AGON"
3290 PRINT"SHE BITES YOU WITH HE
R BLUE AND BLACK DRAGON HEAD"
3291 PRINT"WHAT DO YOU DO TO KEE
P THE DRAGON FROM BITING YO
U!"
3300 PRINT"---1 - SHIELD"
3310 PRINT"---2 - DUCK"
3320 INPUTP#
3330 IF P#="1"THEN3370
3340 IFP#="2"THEN3390
3350 PRINT"TRY AGAIN!"
3360 GOTO3320
3370 PRINT"YOU CHEATED YOU NEVER
HAD A SHIELD!!"
3380 GOTO 10000
3390 PRINT"YOU DUCK FROM THE DEA
DLY BITE"
3400 PRINT"YOU ATTACK!WHAT WEAPD
N DO YOU USE!"
3410 PRINT"---1 - SPEAR"
3420 PRINT"---2 - BOW AND ARROW"
3430 PRINT"---3 - DAGGER"
3440 INPUT0#
3450 IF0#="1"THEN3500
3460 IF0#="2"THEN3530
3470 IF0#="3"THEN3500
3480 PRINT"TRY AGAIN!"
3490 GOTO3440
3500 PRINT"YOU STAB IT'S HEAD WI
TH YOUR WEAPON"
3510 PRINT"YOU KILL THE BLACK DR
AGON HEAD BUT MISS THE BLUE HEA
D"
3520 GOTO3500
3530 PRINT"YOU FIRE TWO MORE ARR
OWS"
3540 PRINT"BOTH OF THEM HIT THE
BLUE DRAGON HEAD AND KILL
IT"
3550 PRINT"BUT THE BLACK DRAGON
BITS AGAIN AND HITS!!!"
3560 PRINT"SHE EATS YOU FOR HER
DINNER!!!"
3570 GOTO10000
3580 PRINT"THE DRAGON BREATHS AT
YOU"
3590 PRINT"WHAT DO YOU DO!!!"
3600 PRINT"---1 - SHIELD"
3610 PRINT"---2 - DUCK"
3620 INPUT#
3630 IFR#="1"THEN3470
3640 IFR#="2"THEN3670
3650 PRINT"TRY AGAIN!!"

3660 GOTO 3620
3670 PRINT"YOU DUCK FROM HER TER
RIBLE BREATH"
3680 PRINT"YOU PICK UP YOUR SPEA
R"
3690 PRINT"WHAT DO YOU DO"
3700 PRINT"---1 - THROW IT"
3710 PRINT"---2 - STAB HER"
3720 INPUT Z#
3730 IF Z#="1"THEN3770
3740 IFZ#="2" THEN3820
3750 PRINT"TRY AGAIN"
3760 GOTO3720
3770 PRINT"YOU THROW IT AT THE D
RAGON"
3780 PRINT"IT HITS THE DRAGON RI
GHT IN THE CHEST!"
3790 PRINT"SHE FALLS DOWN DEAD!!"

3800 PRINT"YOU GAIN HER TREASURE
AND BECOME VERY RICH"
3810 GOTO 20510
3820 PRINT"YOU STAB AT THE DRAGO
N BUT YOU MISS"
3830 PRINT"THE DRAGON KILLS YOU
WITH IT'S CLAW!!"
3840 GOTO 10000
3850 CLS:PRINT "WE WELCOME ";NAM
E#; " TO THE HOT PIT!"
3855 PRINT"YOU ARE WALKING DOWN
A TUNNEL"
3860 PRINT"YOU GET TO THE END, T
HER IS A BIG PIT OF LAVA"
3890 PRINT"THERE IS A VINE HANGI
NG FROM THE TOP"
3900 PRINT"ARE YOU GOING TO...."
3910 PRINT"A---GRAB THE VINE AND
SWING OVER"
3920 PRINT"B---GO BACK THE WAY Y
OU CAME"
3930 INPUTC#
3940 IF C#="A"THEN3980
3950 IFC#="B"THEN4290
3960 PRINT"TRY AGAIN!"
3970 GOTO 3930
3980 PRINT"AS YOU GO OVER A FIRE
ELEMENTAL POPS OUT!!!"
3990 PRINT"ARE YOU GOING TO..."
4000 PRINT"1----RUN"
4010 PRINT"2----FIGHT IT"
4020 INPUTD#
4030 IF D#="1"THEN4070
4040 IF D#="2"THEN4260
4050 PRINT"TRY AGAIN!!!" :GOTO402
0
4070 PRINT" WHEN THE VINE SWING
S BACK YOU JUMP DOWN AND RUN OUT
THE WAY YOU CAME"
4080 PRINT"DO YOU WISH TO...."
4090 PRINT"A----GO BACK TO THE C
AVERN"
4100 PRINT"B----GO TO ANOTHER CA
VERN"
4110 INPUT#
4120 IFE#="A"THEN4160
4130 IFE#="B"THEN4200
4140 PRINT "TRY AGAIN!!"
4150 GOTO4110
4160 PRINT"YOU ENTER THE CAVERN
SUDDENLY THE ENTRENCE SEALS SH
UT!!!"
4170 PRINT"A FIREBAT COMES OUT A
ND CHEWS YOUR HEAD OFF"
4180 PRINT
4190 GOTO10000
4200 PRINT"YOU LOOK FOR ANOTHER
CAVERN TO FIND TREASURE. YOU F
IND ONE YOU ENTER IT"
4210 PRINT"AS YOU ENTER YOU SEE
AN EVERLASTING STAIRWAY"
4211 FORX=1T01000:NEXTX
4220 PRINT"YOU GO DOWN IT, YOU HE
AR THE ROAR OF A HELLHOUND, YOU
SEE IT COMING UP!!!"
4230 PRINT"YOU TAKE YOUR SWORD A
ND SLASH IT'S HEAD OFF"

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4240 PRINT"YOU FIND SOME GOLD!!"
4250 GOTO4670
4260 PRINT"BAD CHOICE!! YOU CAN'
T KILL A FIRE ELEMENTAL WITH A
NY OF YOU WEAPONS!!"
4270 PRINT
4280 GOTO 10000
4290 PRINT"AS YOU GO BACK YOU HE
RE A NOISE"
4300 PRINT "YOU TURN AROUND AND
YOU SEE MAGMAN AND HE SAYS Y
O U D I E! A FIRE BALL APPEARS
IN HIS HAND HE THROWS IT ! YOU"
4305 PRINT"YOU PULL YOUR SWORD O
UT AND "
4310 PRINT "BLOCK IT."
4320 PRINT"ARE YOU GOING TO...."
4330 PRINT " A - FIGHT MAGMAN
"
4340 PRINT " B - RUN"
4350 INPUT#
4360 IF F#="A"THEN4400
4370 IF F#="B"THEN4650
4380 PRINT"TRY AGAIN!!"
4390 GOTO 4350
4400 PRINT"WHAT WEAPON WILL YOU
USE TO DEFEND YOURSELF"
4410 PRINT " 1 - SPEAR"
4420 PRINT " 2 - BOW AND ARROW"
4430 INPUT G#
4440 IF G#="1" THEN 4480
4450 IF G#="2" THEN 4500
4460 PRINT"TRY AGAIN"
4470 GOTO 4430
4480 PRINT"YOU TAKE YOUR SPEAR A
ND THROW IT. MAGMAN RUNS AWAY
."
4490 GOTO 4670
4500 PRINT"YOU PULL BACK YOUR BO
W AND LET IT GO. IT HITS MAGMAN
,IT HAS NO EFFECT!"
4510 PRINT"YOU HAVE A GLOOMY FEE
LING IN YOUR GUTS!"
4520 PRINT"ARE YOU GOING TO.."
4530 PRINT " A - RUN"
4540 PRINT " B - FIGHT MAGMAN
WITH YOUR FIST"
4550 INPUT H#
4560 IF H#="A"THEN4600
4570 IF H#="B"THEN4630
4580 PRINT " INEED AN A OR B ANS
WER. TRY AGAIN."
4590 GOTO 4550
4600 PRINT "YOU RUN FROM MAGMAN,
YOU HERE A NOISE YOU TURN ARO
UND AND SAY OH MY GOD!!..IT'S MAG
GOTMAN!"
4610 PRINT "YOU VOMIT AT THE SIG
HT OF MAGGOTMAN THEN BLOOD
POURS OUT OF YOUR EARS AND NOS
E!!!!!"
4620 GOTO 10000
4630 PRINT "AS YOU HIT HIM YOU G
ET TERRIBLE THIRD DEGREE BURNS E
VERYWHERE!!":PRINT "YOU SOON DIE
!!!"
4640 GOTO10000
4650 PRINT "MAGMAN THROWS A FIRE
BALL AT YOU"
4660 GOTO 10000
4670 PRINT "YOU ARE APPROCHING EX
PERT LEVEL IF YOU'VE GOTTEN THI
S FAR"
4680 PRINT"A PROBLEMED MAGMAN CO
MES OUT WHAT WEAPON DO YOU US
E"
4690 PRINT " 1 - DAGGER"
4700 PRINT " 2 - MAGIC SWORD"
4710 INPUT I#
4720 IF I#="1" THEN 4760
4730 IF I#="2"THEN4890
4740 PRINT"TRY AGAIN!!"
4750 GOTO4710
4760 PRINT "YOU TAKE YOUR DAGGER
AND....."
4770 PRINT " A - THROW IT"

```

```

4780 PRINT " B - FIGHT HIM CLO
SE UP"
4790 INPUT J#
4800 IF J#="A"THEN4840
4810 IF J#="B"THEN4860
4820 PRINT "TRY AGAIN!!"
4830 GOTO 118
4840 PRINT "YOU MISSED BY A MILE
!!"
4850 PRINT"YOU'RE DEAD":GOTO 100
00
4860 PRINT"YOU COME UP TO THE MA
GMAN YOU SEE HE HAS NO WEAPONS
."
4870 PRINT"SUDDENLY!!!!":FORX=1TO
800:NEXTX
4875 PRINT "HE ,HE...CHOKES TO D
EATH!!!"
4880 PRINT "YOU GO INTO HIS CAVE
AND YOU FIND RUBIES,DIAMONDS
,GOLD,AND SILVER":PRINT "YOU'R
E AN EXPERT!"
4890 GOTO 20510
4900 PRINT"YOU HAVE NO MAGIC SWO
RD! YOU SEE MAGMAN COMING AT YOU
"
4910 PRINT "THEN YOU SEE MAGGOTM
A"
4920 GOTO 4610
10000 SOUND 1,10
10010 PRINT "TO BAD!!!"
10020 GOTO 20100
20000 PRINT "GOOD GOING"
20100 PRINT "DOES THOU WISH TO P
LAY AGAIN":INPUT G#
20200 IF G#="Y" THEN 1
20300 IF G#="YES" THEN 1
20400 IF G#="N" THEN 20600
20500 IF G#="NO" THEN 20600
20501 PRINT"A SIMPLE YES OR NO W
ILL DO!!":GOTO20100
20510 DATA -1,185,4,197,2,1,1,18
5,4,189,4,197,6,0,0
20511 RESTORE
20512 READ Z2:IF Z2<>-1 THEN 2051
2
20513 READ ZT,ZD:IF ZT=0 THEN 20
518
20514 IF ZT=1THEN 20516
20515 SOUND ZT,ZD
20516 FOR ZT=1TO20:NEXTZT
20517 GOTO 20513
20518 PRINT
20519 GOTO20000
20500 END

```



16K CoCo  
or MC-10

# CIRCLES

by Don  
Whitelock

**W**HO SAID the MC10 can' draw circles? This little program takes just .547K so it will work anywhere.

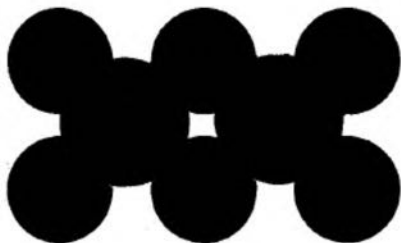
It can be a very handy program to form part of the headings for some programs you may have in the pipeline. The variation of circles is almost endless and the program can be adjusted to suit your own needs.

## The Listing: CIRCLES

```

1 REM THIS PROGRAM TAKES .547 K
50 IT'LL WORK ANYWHERE, ANYTIME.
10 REM CONCENTRIC CIRCLES
20 REM DON WHITELOCK 1982
25 REM MICROCOMPUTER NEWS 1982
REPRINTS C/O TANDY....
30 F=0
40 CLS(0)
50 PRINT"ENTER THE RADIUS OF THE
CIRCLE."
60 INPUT"---(2 TO 25)---":A
70 IF A<20R>25THEN50
80 CLS(0)
90 PRINT"ENTER ANY NUMBER GREATE
R THAN "
100 INPUT"20 FOR THE RESOLUTION.
":B
110 IF B<20THEN90
120 CLS(0)
130 PRINT"ENTER THE NUMBER OF SP
ACES"
140 INPUT"BETWEEN EACH CIRCLE":C
150 CLS(0)
160 FOR D=1TO B STEP.5
170 F=F+1
180 IF F=8THEN LET F=1
190 I=30+(A#SIN(D))
200 J=16+(.60*(A#COS(D)))
210 SET(I,J,F)
220 NEXT D
230 A=A-1-C
240 IF A>=2 THEN160
245 IF A<2 THEN250
250 PRINT@475,"end";
260 GOTO260

```



# OPERATION BARBAROSSA

by Victor Koss

The Listing:



32KECB

```

0 GOTO10
1 '*****
2 '** OPERATION BARBAROSSA **
3 '** (C) 1986 BY **
4 '** VICTOR KOSS **
5 '*****
6 ' ALL INSTRUCTIONS ARE IN
7 ' THIS PROGRAM
8 SAVE"BARBA1:3":END
9 END
10 POKE65495,0
11 CLS3:PRINT@197,"JUST ONE MOME
NT PLEASE";:PRINT@353,"NOTE : AN
Y INKEY AFTER DISPLAY";
12 PMODE4,1:PCLS:POKE178,3:DRAW"
BM96,76;M107,57M148,57;M159,76;L
3;M147,60;NM148,57;M108,60;NM107
,57;M99,76;L3;BM108,57;E2R8F2;BM
131,57;U3NE2R4D1NL4BR2R3U1NL3BR2
R4D3U2NL4U2H2L10;BM131,54NR15D2N
R15L12"
13 CIRCLE(128,68),4:DRAW"BM110,6
2;R35F2D10NL15H3U6E2;BM110,62G2D
10NR15E3U6H2;BM116,66R4D1L4;BM13
9,66L5D1R5"
14 DRAW"BM99,76;R13U1R4D2NL4U1R4
;M124,74;E2BR4F2;M136,76;L16R5E2
U2D4R2U4D2F2R10U1R4D2NL4U1;M163,
76":DRAW"BM96,76;L4;M85,84;D4R19
D16L19U16R3ND4R4ND4R4ND4R4ND4R4D
4L19"
15 DRAW"BM163,76;M170,84;D4L19D1
6R19U16L3ND4L4ND4L4ND4L4ND4L4D4R
19":DRAW"BM130,84;R16D2L16U2H2R2
ONG2D6NH2L2ONE2U6":DRAW"BM112,84
R2D8L2NU8H2U8NF2R6NG2D8G2":CIRCL
E(94,82),2:CIRCLE(161,82),2
16 Ts="R19D4L19NU4BD2R19D4L19NU4
BD2R19D3L19NU3D1R19D3L19U3":DRAW
"BM104,100;NR47;R4U2R12D2R3D2R9U
2R3U2R12D2":DRAW"BM85,105;XT$;":
DRAW"BM104,108;R47":DRAW"BM151,1
05;XT$;"
17 POKE178,154:PAINT(92,96),,1:P
AINT(160,96),,1:POKE178,3
18 DRAW"BM20,12;R204F4U4R8D24L12
H4D4L8NU24L24U24D8L8D8R8D8L24U8R
8U8L8NU8D4L8D12L8U12L8NU12D12L12
NU8L12NU24U12NL4D12L8H4NU4D4L12U
16NU8NL8D8NL8D8L24U12NU12L12D12L
12NU24L24U24"
19 Bs="R4D4L4U4":DRAW"BM36,16;XB
$;BM60,16;XB$;BM108,16;XB$;BM132
,16;XB$;BM204,16;XB$;BM24,144;XB
$;BM24,156;XB$;BM48,144;XB$;BM72
,144;XB$;BM96,144;XB$;BM96,156;X
B$;BM120,144;XB$;BM144,144;XB$;B
M168,144;XB$;BM240,144;XB$;"
20 DRAW"BM8,140;R240;D24L12NU8L1
2U16NU8NL8D16L24U16NU8NL8D8NR8D8
L24NU24U8NR8D8L24U12NU12NL4D12L8

```

**T**HIS IS called "Operation Barbarossa" and is a tank-battle game.

There are two listings to this program; the first listing will go through the instructions and the basic history of the game. Listing 2 is the actual program to play "Operation Barbarossa".

If any problems arise, please in form me, I believe it is bug-free. I have been programming for about 6 months though I have had the computer for almost two years. This is my first game so don't expect too much from it.

My telephone number is (03) 561-4475.

## PROGRAMS

```
H4NU4D4L12NU24L12NU8L12U12NU12NL
12D12L24U12NU12NL4D12L8H4NU4D4L1
2NU24L12NU8L12U12NU12NL12D12L24U
24"
21 DRAW"BM208,56;M216,76;M240,76
;M221,90;M228,113;M208,99;M187,1
13;M196,90;M176,76;M201,76;M208,
56;BM208,63;M213,79;M233,79;M217
,90;M224,107;M208,96;M192,107;M2
00,90;M184,79;M203,79;M208,63"
22 PAINT(208,59),1,1:PAINT(208,9
77),1,1:PAINT(232,81),1,1:POKE178
,1:PAINT(208,88),,1:POKE178,3
23 DRAW"BM32,60NR8D12L12D8R20U20
BR16R8D12R12D8L20NU20BD16R20D8L1
2D12L8U20BL16L20D8R12D12R8U20":P
AINT(36,76),1,1:PAINT(60,76),1,1
:PAINT(36,100),1,1:PAINT(60,100)
,1,1
24 DRAW"BM20,36;M97,73;BM44,36;M
99,70;BM56,36;M100,68;BM56,24;M6
8,34;BM68,36;M102,65;BM92,36;M10
7,57;BM104,36;M113,55;BM108,36;M
116,55;BM116,36;M121,56;BM128,36
;M128,57;BM140,36;M136,53;BM148,
24;M139,53;BM148,36;M142,53;BM15
6,36;M146,54"
25 DRAW"BM164,24;M147,57;BM164,2
8;M148,57;BM172,20;M167,28;BM164
,36;M149,58;BM188,20G8;BM188,36;
M154,66;BM212,36;M156,71;BM220,3
6;M158,73;BM224,36;M158,73;BM236
,36;M158,74"
26 DRAW"BM8,140;M85,107;BM32,140
;M85,112;BM56,140;M85,120;BM80,1
40;M96,123;BM104,115;M110,108;BM
104,140;M118,108;BM128,140;M128,
108;BM152,140;M138,108;BM176,140
;M160,123;BM151,112;M147,108;BM2
00,140;M170,119;BM224,140;M170,1
11;BM248,140;M170,105"
27 X=1
28 LINE(X,X)-(255-X,191-X),PSET,
B:X=X+3:IFX>=6THEN29ELSE28
29 POKE178,2:PAINT(10,10),,1
30 PMODE4,1:SCREEN1,1
31 DIMA(40,30)
32 GET(0,0)-(255,191),A,G
33 PUT(0,0)-(255,191),A,PRESET
34 PUT(0,0)-(255,191),A,PSET
35 EXEC44539
36 CLS
37 PRINT" OPERATION BARBARO
SSA (C) 1986 BY
VICTOR KOSS"
38 PRINT
39 PRINTSTRING$(32,"-");
40 PRINT" MAIN MENU
-----"
41 PRINT
42 PRINT" 1) HISTORY OF THE GAM
E"
43 PRINT
44 PRINT" 2) HOW TO PLAY THE GA
ME"
45 PRINT
46 PRINT" 3) LOAD ON GAME"
47 PRINT
48 PRINT" ENTER SELECTION NUMB
ER"
49 GOSUB97
50 AA$=INKEY$:IFAA$=""THEN50
51 IFAA$="1"THEN55
52 IFAA$="2"THEN66
```

```
53 IFAA$="3"THEN92
54 GOTO50
55 'HISTORY
56 CLS
57 PRINT" THE ORIGINS OF THIS G
AME GO BACK TO WORLD WAR TWO W
HEN THE GERMANS INVADED THE SOV
IET UNIONIN 1941. THAT BATTLE W
AS CODE- NAMED 'OPERATION BARBAR
OSSA' ANDWAS A BATTLE MAINLY FOU
GHT BY TANKS, BUT ALSO BY AIRC
RAFT."
58 PRINT"IN THIS GAME YOU ARE TH
E FIRST COMMANDER OF A NEW PANT
HER TANK,AND YOUR MISSION IS TO
DESTROY THE RUSSIAN TANKS."
59 GOSUB97:GOSUB101
60 CLS
61 PRINT" YOU MUST NOT WAIT ARO
UND TO DESTROY THE ENEMY FOR T
HEY ONLY NEED A LITTLE TIME FOR
THEM TO DISCOVER AND DESTROY YO
U."
62 PRINT:PRINT:PRINT
63 PRINT" --- GOOD LUCK ---
--"
64 GOSUB97:GOSUB101
65 GOTO36
66 'INSTRUCTIONS
67 CLS
68 PRINT" THE BASIC IDEA OF THE
GAME IS TO DESTROY THE ENEMY TA
NKS, FIRST BY POSITIONING TH
E GUN ON THEM AND THEN BY FIRING
AND DESTROYING THEM."
69 PRINT:PRINT" AT THE START OF
THE GAME, INPUT YOUR NAME (
IF YOU MAKE AN ERROR, JUST PRESS
THE ' ' KEY) AND THEN THE DIFI
CULTY."
70 GOSUB97:GOSUB101
71 CLS
72 PRINT" THE MAP ON THE SCREEN
INDICATES THE POSITION
WHERE YOUARE ENGAGEING THAT PARI
CULAR TANK. THE LARGE RECTAN
GLE NEAR THE TOP OF THE SCREEN I
S THE VIEW SCREEN, THE THREE
SMALLER RECTANGLES UNDERNEATH A
RE THE"
73 PRINT"CONTROL FUNCTIONS, AND
UNDER THOSE ARE ITEMS SUCH AS
NAME, SCORE,ETC. 'ATTACK' IS
THE TIMEIT WILL TAKE FOR THE OP
POSING TANK TO DESTROY YOU AND
'TIME' INDICATES THE TIME ALRE
ADY PAST.";
74 GOSUB97:GOSUB101
75 CLS
76 PRINT" 'LEVEL' TELLS THE TYP
E OF TANKYOU ARE ENGAGED IN BATT
LE WITH."
77 GOSUB97:GOSUB101
78 CLS
79 PRINT" TO FIRE THE GUN YOU F
IRST MUSTPRESS 'C' FOR CONTROL,
MOVE THE JOYSTICK TO THE APPROPRI
ATE FLASHING BOX 'AIM GUN',
THEN PRESS THE JOYSTICK BUTT
ON, NOW YOU ARE IN THE AIMING M
ODE. WHEN YOU HAVE POSITIONE
D THE"
80 PRINT"AIMING ELLIPSE ON THE T
ARGET PRESS THE JOYSTICK BUTT
```

```
ON TO FIXTHE GUN ON THE TARGET (
THIS IS ACKNOWLEDGED BY A SHORT
BEEP).".
81 GOSUB97:GOSUB101
82 CLS
83 PRINT" THEN AS QUICKLY AS PO
SSIBLE, BEFORE THE TARGET MOVES
AWAY, PRESS 'C' AND MOVE TO T
HE 'FIRE GUN' OPTION AND PRESS T
HE JOYSTICK BUTTON TO FIRE
84 PRINT" THE AERIAL ENGAGEMENT
SECTION IS A SORT OF 'CHANCE' P
ART WHEREYOU CANNOT BE DESTROYED
BUT YOU GET 20 SHOTS TO HIT THE
PLANE ASMANY TIMES AS POSSIBLE
FOR BONUSPOINTS."
85 GOSUB97:GOSUB101
86 CLS
87 PRINT" 'M' FOR MACHINE GUN I
S USED TOCLEAR INFANTRY, THE COM
PUTER WILL INFORM YOU WHEN TH
EY ATTACK"
88 PRINT"THE REST IS SELF-EXPLAN
ATORY OR YOU MUST FIND OUT FOR Y
OURSELF."
89 PRINT:PRINT" ---- GOOD LUC
K ----"
90 GOSUB97:GOSUB101
91 GOTO36
92 ' LOAD ON GAME
93 CLS
94 PRINT@192," TYPE 'RUN' <
ENTER> WHEN FINISHED
LOADING"
95 GOSUB97:POKE65494,0
96 CLOAD"OPERBARB"
97 FORCR=1024TO1535
98 P=PEEK(CR):POKECR,P-64
99 NEXTCR
100 RETURN
101 PRINT@483,"PRESS ANY KEY TO
CONTINUE";
102 AA$=INKEY$:IFAA$=""THEN102
103 RETURN
```

## The Listing:

```
0 GOTO9
1 'OPERATION BARBAROSSA
2 'BY VICTOR ROSS
3 SAVE"BARBA2:3":END
4 '
5 '
6 '
7 '
8 ' CHARACTER SET
9 POKE65495,0
10 CLEAR2500:PCLS:DIMA$(90),XX(
5,5),YY(5,5),ZZ(5,5),T1(6,3),T2(
6,3),L1(6,3),L2(6,3),F1(6,3),F2(
6,3),M1(6,3),M2(6,3),I1(6,3),I2(
6,3)11 FORP=1TO90:READC$:AA$(P)=
C$:NEXT:GOTO64
12 DATA BR2UBU2U2,BU5NDBR3D,BRUN
LU3NLNURNUNRD3NLNRD,BRUNLREHL2UR
NUR2,BR3NUBL3UE3UBL3D,BRNHRU3FND
```

```

2HLNGHERFG, BU5BRDRG, BR2HU3E, BREU
3H, BU5BRFNLGNENRNF, BU3BR2DNLNRD
, BRUNRDRG, BRBU2R2, BRRL, UR3U, BR
HNE3U3ERFD3GL, R2U5NLD5R
13 DATA NR3UEREUHLG, BUFRUEHNLLEUL
3, BR3U5D3L3UE2R, BUFRUEHL2U2R3, BU
FRUEHLGU2ER, BU4UR3D2G3, BUFRUEHLN
GHERFG, BRREU3HLGDFRE, BR2UBU2U, BR
2NEUBU2URDLBD3R3D, BR2H2UE2, BRBU
R2BU2R2, BRE2UH2, BR2UBU2REHL2, , U2
NR3U2ERFD4
14 DATA U3NR2U2R2FGFDGL2, BU3ERF
BD3GLH, U5RF2DGL2, NR3U3NR2U2R3, U3
NR2U2R3, BU3ERBRBD3NLDGLH, U3NU2R
3NU2D3, BRU5, BUFEU4NRL2, U5D2RE2G2
F2D, NU5R3, U5FDRUED5, U5F3U3D5, U5R
3D5L3, U5R2FDGL2, BU3ERFD3NHNFGHL
, U5R2FGL2F3, BUFRUEHL2UVERF
15 DATA BRU5LR3, NU5R3U5, BU5D3FDR
UEU3, NU5EU2RD2FU5, UE2H2BR3DGNLFD
2, BU5D2FRD2NLU2EU2, NR3UE3UL3, , ,
, , , U2R3U2NL2D4L3, NU5R3U4L3, NR2U4
R2, R3NU5U4L3D4, U4R3D2L3D2R3, BRU2
NLNR2U2ER, U4R3D4NL3D2L2, U4NUR2FD
3, BR2U3BU2RL2
16 DATA BR2U3BU2UBD4D2GL, NU5U3NR
2F3, RU5NLD5R2, U4FDRUED4, U4DERFD3
, U4R3D4L3, U4R3D4L3D2, U4R3D4NL3D2
, BRU4D2ER, R3U2L3U2R3, BRNR2U4NR2N
LU, NU4R3U4, BU4D2FDRUEU2, NU4EURDF
U4, UEHUBR3DGNLFD, BU4D3FR2NU4DGL,
NR3UE3L3
17 SL=LEN(W$): FORI=1TOSL: B$=MID$
(W$, I, 1): C=ASC(B$)-32: DRAW"BM"+S
TR$(X)+", "+STR$(Y): DRAW AA$(C): X
=X+6: NEXTI: RETURN
18 ' GET ENEMY TANKS
19 PMODE4, 1: PCLS
20 DRAW"C1"; BM10, 3; R5F2NR4F1L11NE
3L2G2L2ND1R19NH3R3F1": CIRCLE(3, 1
0), 1: CIRCLE(22, 10), 1: FORX=6TO18S
TEP4: CIRCLE(X, 12), 1: NEXTX: DRAW"B
M5, 13NH3R15E3"
21 GET(0, 0)-(26, 15), T1, G
22 DRAW"C0"; BM18, 5; R4; C1; BM8, 5L4"
23 GET(0, 0)-(26, 15), T2, G
24 PCLS
25 FORX=4TO20STEP4: CIRCLE(X, 13),
1: NEXTX: CIRCLE(3, 12), 2: CIRCLE(21
, 12), 2: DRAW"BM4, 15; R16; BM0, 11E2R
20NF2L1H2L15NG2R2E3R6ND3L3F3U2NR
5D1"26 GET(0, 0)-(26, 15), L1, G
27 LINE(0, 0)-(25, 6), PRESET, BF
28 DRAW"BM8, 7; U2NL5D1U2R3NG3R3F3
"
29 GET(0, 0)-(26, 15), L2, G
30 PCLS
31 FORX=5TO25STEP5: CIRCLE(X, 12),
2: NEXT: CIRCLE(3, 10), 2: CIRCLE(27,
10), 2: DRAW"BM5, 15; R20; BM5, 9; R20;
BM2, 8; NG2R26NF2L2R4U2R3L5U1R1OF
4H3R10"
32 GET(0, 0)-(30, 15), F1, G
33 LINE(0, 0)-(30, 7), PRESET, BF
34 DRAW"BM20, 8; U2L2R5U1L10G4E3L1
0"
35 GET(0, 0)-(30, 15), F2, G
36 PCLS
37 FORX=7TO27STEP5: CIRCLE(X, 12),
2: NEXT: CIRCLE(5, 10), 2: CIRCLE(29,
10), 2: DRAW"BM7, 15; R20; BM7, 9; R20;
BM4, 8; G2R25; BM5, 9U2R5D2R5H2NU5E2
U1R4ND1L4D1R8F2ND1R9L4U1L5"

```

```

38 GET(0, 0)-(36, 15), M1, G
39 LINE(0, 0)-(35, 8), PRESET, BF
40 DRAW"BM29, 9U2L4D2L4E2NU5H2U1L
4ND1R4D1L8G2ND1L9R4U1R5"
41 GET(0, 0)-(36, 15), M2, G
42 PCLS
43 FORX=10TO30STEP4: CIRCLE(X, 13)
, 1: NEXTX: FORX=8TO32STEP8: CIRCLE(X
, 11), 1: NEXTX: DRAW"BM10, 15; NH4R2
0E4; BM7, 10; R24; BM9, 10U2R7D2R6L2U
2L1H1L1H1R4NU5D2E2R6D1R12D1L12U1
D2G2"
44 GET(0, 0)-(40, 15), I1, G
45 LINE(0, 0)-(40, 9), PRESET, BF
46 DRAW"BM29, 10U2L7D2L6R2U2R1E1R
1E1L4NU5D2H2L6D1L12D1R12U1D2F2"
47 GET(0, 0)-(40, 15), I2, G
48 RETURN
49 'SET SCREEN
50 PMODE4, 1: SCREEN1, 1: PCLS
51 FORX=1TO5STEP2: LINE(X, X)-(255
-X, 191-X), PSET, B: NEXTX: LINE(10, 3
0)-(245, 90), PSET, B: LINE(10, 100)-
(110, 180), PSET, B: LINE(10, 30)-(24
5, 40), PSET, BF: LINE(10, 74)-(245, 7
8), PSET, BF
52 LINE(115, 100)-(156, 120), PSET,
BF: LINE(160, 100)-(202, 120), PSET,
BF: LINE(206, 100)-(246, 120), PSET,
BF: LINE(117, 125)-(242, 135), PSET,
BF
53 X=10: Y=15: W$="O-P-E-R-A-T-I-O
-N B-A-R-B-A-R-O-S-S-A": GOSUB1
7
54 X=50: Y=25: W$="(C) 1986 BY V
ictor Koss": GOSUB17
55 DRAW"C0": X=30: Y=38: W$="'M' -
MACHINE GUN 'C' - CONTROL": GOS
UB17: DRAW"C1"
56 DRAW"C0": X=122: Y=108: W$="ABOR
T ": GOSUB17: X=122: Y=118: W$="FIGH
T": GOSUB17
57 X=173: Y=108: W$="AIM": GOSUB17:
X=173: Y=118: W$="GUN": GOSUB17
58 X=216: Y=108: W$="FIRE": GOSUB17
: X=219: Y=118: W$="GUN": GOSUB17: DR
AW"C1"
59 GET(117, 102)-(154, 118), XX, G: G
ET(162, 102)-(200, 118), YY, G: GET(2
08, 102)-(244, 118), ZZ, G
60 X=120: Y=142: W$="NAME ": GOSUB
17: X=120: Y=152: W$="SCORE ": GOSU
B17: X=120: Y=162: W$="TIME ": GOSU
B17: X=120: Y=172: W$="ATTACK ": GO
SUB17: X=120: Y=182: W$="LEVEL ": G
OSUB17
61 IFW$=CHR$(13) THENW$=""
62 W$=LEFT$(W$, LEN(W$)-1): X=1
60: Y=142: W$=W$: GOSUB17
63 RETURN
64 'INITIALIZATION
65 PMODE4, 1: PCLS1: SCREEN1, 1
66 LINE(0, 0)-(255, 191), PRESET, B
67 DRAW"C0": X=10: Y=30: W$="O P E
R A T I O N B A R B A R O S S A
": GOSUB17: X=50: Y=45: W$="(C) 198
6 BY Victor Koss": GOSUB17
68 X=20: Y=80: W$="Welcome to Oper
ation Barbarossa !": GOSUB17: X=20
: Y=90: W$="If you have gone over
the instructions": GOSUB17: X=20: Y
=100: W$="then <SPACEBAR> to cont
inue. Else go": GOSUB17: X=20: Y=11

```

```

0: W$="over the instructions in t
he previous": GOSUB17
69 X=20: Y=120: W$="program to und
erstand the game.": GOSUB17: X=45:
Y=150: W$="PRESS <SPACEBAR> TO CO
NTINUE": GOSUB17: X=45: Y=160: W$="O
R <E> TO STOP PROGRAM ORDER": GOS
UB17
70 Q$=INKEY$: IFQ$="" THEN71ELS
EIFQ$("<>") THEN70ELSECLS0: PRINT"
LOAD PREVIOUS PROGRAM": END
71 PMODE4, 1: PCLS1: SCREEN1, 1: LINE
(0, 0)-(255, 191), PRESET, B: DRAW"C0
"
72 X=30: Y=80: W$="PLEASE ENTER YO
UR NAME ---": GOSUB17: X=30: Y=90: W
$="(MAX. 14 LETTERS)": GOSUB17: X=
30: Y=100: W$=""
73 Q$=INKEY$: IFQ$="" THEN73
74 W$=Q$: W$=W$+W$: IFLN(W$)>>
14 THEN76ELSEIFQ$=CHR$(13) THEN76
ELSEIFQ$=CHR$(8) THEN75ELSEGOSUB
17: GOTO73
75 COLOR1, 0: LINE(28, 92)-(108, 102
), PSET, BF: X=30: Y=100: W$="" : W$=""
": COLOR1, 1: GOTO73
76 X=30: Y=140: W$="ENTER DIFFICUL
TY (1 OR 2)": GOSUB17: X=30: Y=150:
W$="1. AMETUER": GOSUB17: X=30: Y=1
60: W$="2. ADVANCED": GOSUB17
77 AA$=INKEY$: IFAA$="1" THENLL=1.
5ELSE IFAA$("<>") THEN77ELSELL=2
78 DRAW"C1": COLOR1, 0: PCLS
79 CLS0: PRINT@230, "please"CHR$(1
28)"wait"CHR$(128)"a"CHR$(128)"m
oment": GOSUB19: GOSUB49: SC=0: WIN
=0: LR=128: UD=65: TH=RND(100)+50: T
U=65: LV=1: GOSUB242: GOTO80
80 'CONTROL
81 IFWIN<ORWIN> THEN285
82 IFINKEY$="C" THENGOSUB166
83 IFRND(100)<INT((LL^2)*3) THENG
OSUB197
84 GOSUB85: GOTO80
85 'CONTROL
86 DRAW"C0": X=157: Y=162: W$=STR$(
TP): GOSUB17
87 TP=TP+1: IFTP=TE THENWIN=-1: GO
TO285
88 DRAW"C1": X=157: Y=162: W$=STR$(
TP): GOSUB17
89 IFLV=6ORLV=8 THENLT=4: GOTO91
90 IFLV=7ORLV=9 THENLT=5: ELSELT=L
V
91 LINE(TH-20, TU-7)-(TH+20, TU+8)
, PRESET, BF: G=RND(2): AH=0: IFTH<30
THENTH=235ELSEIFTH>235THENTH=30
92 ONLT+1GOSUB94, 95, 98, 101, 104, 1
07
93 GOSUB110: RETURN
94 RETURN
95 IFG=1 THENAH=AH+INT(RND(1)*LL)
ELSEAH=AH-INT(RND(1)*LL)
96 IFAH<0 THEND=OELSED=1
97 TH=TH+AH: RETURN
98 IFG=1 THENAH=AH+INT(RND(2)*LL)
ELSEAH=AH-INT(RND(2)*LL)
99 IFAH<0 THEND=OELSED=1
100 TH=TH+AH: RETURN
101 IFG=1 THENAH=AH+INT(RND(3)*LL
) ELSEAH=AH-INT(RND(3)*LL)
102 IFAH<0 THEND=OELSED=1
103 TH=TH+AH: RETURN

```

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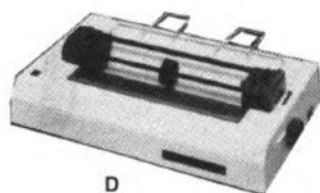
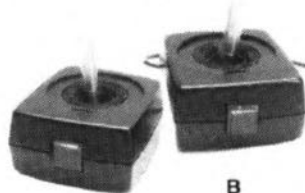
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```

104 IFG=1THENAH=AH+INT(RND(4)*LL
)ELSEAH=AH-INT(RND(4)*LL)
105 IFAH<0THEND=0ELSESD=1
106 TH=TH+AH: RETURN
107 IFG=1THENAH=AH+INT(RND(5)*LL
)ELSEAH=AH-INT(RND(5)*LL)
108 IFAH<0THEND=0ELSESD=1
109 TH=TH+AH: RETURN
110 'GAME CONTROL
111 CIRCLE(LR,UD),5,,.5
112 CIRCLE(LR,UD),5,0,.5
113 EXEC43345
114 IFLV=6ORLV=8THENLM=4: GOTO116
115 IFLV=7ORLV=9THENLM=5: ELSELM=
LV
116 EXEC43345
117 ONLM+1GOSUB121,122,124,126,1
28,130
118 CIRCLE(LR,UD),5,,.5
119 CIRCLE(LR,UD),5,0,.5
120 RETURN
121 RETURN
122 IFD=0THENPUT(TH-13,TU-7)-(TH
+13,TU+8),T1,PSET: ELSEPUT(TH-13,
TU-7)-(TH+13,TU+8),T2,PSET
123 RETURN
124 IFD=0THENPUT(TH-13,TU-7)-(TH
+13,TU+8),L1,PSET: ELSEPUT(TH-13,
TU-7)-(TH+13,TU+8),L2,PSET
125 RETURN
126 IFD=0THENPUT(TH-15,TU-7)-(TH
+15,TU+8),F1,PSET: ELSEPUT(TH-15,
TU-7)-(TH+15,TU+8),F2,PSET
127 RETURN
128 IFD=0THENPUT(TH-18,TU-7)-(TH
+18,TU+8),M1,PSET: ELSEPUT(TH-18,
TU-7)-(TH+18,TU+8),M2,PSET
129 RETURN
130 IFD=0THENPUT(TH-20,TU-7)-(TH
+20,TU+8),I1,PSET: ELSEPUT(TH-20,
TU-7)-(TH+20,TU+8),I2,PSET
131 RETURN
132 'FIRE
133 IFUD<TU-4ORUD>TU+4THEN160
134 IFLV=6ORLV=8THENLD=4: GOTO136
135 IFLV=7ORLV=9THENLD=5: ELSELD=
LV
136 ONLD+1GOTO137,138,141,144,14
7,150
137 GOTO160
138 IFLR<TH-6ORLR>TH+6THEN160
139 LINE(TH-13,TU-7)-(TH+13,TU+8
),PRESET,BF
140 SC=SC+50*LL: GOTO154
141 IFLR<TH-5ORLR>TH+5THEN160
142 LINE(TH-13,TU-7)-(TH+13,TU+8
),PRESET,BF
143 SC=SC+100*LL: GOTO154
144 IFLR<TH-4ORLR>TH+4THEN160
145 LINE(TH-15,TU-7)-(TH+15,TU+8
),PRESET,BF
146 SC=SC+250*LL: GOTO154
147 IFLR<TH-4ORLR>TH+4THEN160
148 LINE(TH-18,TU-7)-(TH+18,TU+8
),PRESET,BF
149 SC=SC+500*LL: GOTO154
150 IFLR<TH-3ORLR>TH+3THEN160
151 LINE(TH-20,TU-7)-(TH+20,TU+8
),PRESET,BF
152 SC=SC+1000*LL: GOTO154
153 PMODE4,1: SCREEN1,1: PCLS: TH=1
28: TU=96
154 FORZ=1TO10: K=RND(20): J=RND(1
0): LINE(TH,TU)-(TH+K,TU+J),PSET:
LINE(TH,TU)-(TH-K,TU+J),PSET: LIN
E(TH,TU)-(TH-K,TU-J),PSET: LINE(T
H,TU)-(TH+K,TU-J),PSET: PLAY"T20L
2001V10GGV20GGV30GG": NEXTZ
155 FORZ=1TO10: CIRCLE(TH,TU),Z,,
.5: CIRCLE(TH,TU),Z,0,.5: PLAY"V-L
10T20001GGGGGG"
156 NEXTZ
157 DRAW"C1": LINE(10,40)-(245,90
),PRESET,BF: LINE(10,40)-(245,90)
,PSET,B: LINE(10,74)-(245,78),PSE
T,BF
158 TH=RND(100)+50: LV=LV+1: GOSUB
242: LINE(160,147)-(190,158),PRES
ET,BF
159 X=160: Y=152: W$=STR$(SC): GOSU
B17: RETURN
160 'MISS
161 FORS=1TO2: IFS=1THENDRAW"C1"E
LSEDRAW"C0"
162 FORB=1TO10: BB=B*2: EXEC43345
163 DRAW"BM=LR;,74;L5NH=B;R5NH=B
;U5;NH=B;NU=BB;NE=B;D5NE=B;R5;NE
=B;L5"
164 NEXTB: NEXTS: DRAW"C1"
165 LINE(10,40)-(245,90),PRESET,
BF: LINE(10,40)-(245,90),PSET,B: L
INE(10,74)-(245,78),PSET,BF: RETU
RN
166 'CONTROLS
167 H=JOYSTK(0): V=JOYSTK(1)
168 IFH<20THENPUT(117,102)-(154,
118),XX,PSET: PUT(117,102)-(154
,118),XX,PSET
169 IFH>20ANDH<40THENPUT(162,102
)-(200,118),YY,PSET: PUT(162,10
2)-(200,118),YY,PSET
170 IFH>40THENPUT(208,102)-(244,
118),ZZ,PSET: PUT(208,102)-(244
,118),ZZ,PSET
171 IFPEEK(65280)=126ORPEEK(6528
0)=254THEN172ELSE167
172 IFH<20THEN176
173 IFH>20ANDH<40THEN181
174 IFH>40THEN194
175 RETURN
176 'ABORT
177 X=64: Y=87: W$="ARE YOU SURE (
Y/N) ?": GOSUB17
178 AAS=INKEY$: IFAAS="Y"THENWIN=
-1: GOTO285
179 IFAAS<>"N"THEN178ELSE180
180 X=64: Y=87: DRAW"C0": W$="ARE Y
OU SURE (Y/N) ?": GOSUB17: DRAW"C1
": RETURN
181 'AIM
182 H=JOYSTK(0): V=JOYSTK(1)
183 IFH<10THENLR=LR-4
184 IFH>55THENLR=LR+4
185 IFV<10THENUD=UD-1
186 IFV>55THENUD=UD+1
187 IFLR<20THENLR=20
188 IFLR>235THENLR=235
189 IFUD<50THENUD=50
190 IFUD>70THENUD=70
191 GOSUB85
192 IFPEEK(65280)=126ORPEEK(6528
0)=254THENSOUND100,1: GOTO80
193 GOTO182
194 'FIRE
195 PLAY"T5L16001V30DDGV25DDGV20
DDGV15DDGV10DDGV5DDGT10L10V30A-A
-A-V25A-A-A-V20A-A-A-V15A-A-A-V1
0A-A-A-V10A-A-A-V5A-A-A-V2A-A-A-
"
196 GOSUB132: GOTO80
197 'INFANTRY
198 FORE=1TO5: SOUNDE*2,1: NEXTE
199 X=128: Y=133: DRAW"C0": W$="INF
ANTRY ATTACK !!!": GOSUB17: DRAW"C1
"
200 FORE=1TO115STEP4
201 EXEC43345: IFINKEYS="M"THEN20
5
202 LINE(128-E,65-INT(E/5))-(128
+E,65+INT(E/5)),PSET,B
203 NEXTE
204 WIN=-1: RETURN
205 FORX=1TO10: PLAY"T10L10001V28
CV29DV20EV10F#V21G#V16G#V16GV31"
: NEXTX
206 LINE(10,40)-(245,90),PRESET,
BF: LINE(10,40)-(245,90),PSET,B: L
INE(10,74)-(245,78),PSET,BF
207 X=128: Y=133: DRAW"C1": W$="INF
ANTRY ATTACK !!!": GOSUB17
208 RETURN
209 'AIRCRAFT
210 LINE(10,40)-(245,90),PRESET,
BF: LINE(10,40)-(245,90),PSET,B
211 X=25: Y=65: W$="Any key to beg
in aerial engagement": GOSUB17
212 EXEC44539
213 LINE(11,41)-(244,89),PRESET,
BF
214 AH=128: AU=65: SA=0: SH=0
215 H=JOYSTK(0): V=JOYSTK(1)
216 IFH<20THENAH=AH-10
217 IFH>40THENAH=AH+10
218 IFV<20THENAU=AU-5
219 IFV>40THENAU=AU+5
220 AH=AH+RND(5)-RND(5): AU=AU+RN
D(5)-RND(5)
221 IFAH<20THENAH=20
222 IFAH>230THENAH=230
223 IFAU<48THENAU=48
224 IFAU>85THENAU=85
225 DRAW"BM=AH;,=AU;NL5NR5NE2NF2
NG2NH2U4"
226 DRAW"BM128,65;BU3NU5BD6ND5BU
3BL3NL5BR6R5"
227 LINE(AH-7,AU-5)-(AH+7,AU+3),
PRESET,BF
228 SOUND1,1
229 IFPEEK(65280)=126ORPEEK(6528
0)=254THENLINE(10,90)-(128,65),P
SET: LINE(245,90)-(128,65),PSET: L
INE(10,88)-(128,65),PSET: LINE(24
5,88)-(128,65),PSET: PLAY"V30T10L
1001A02A": ELSE233
230 SH=SH+1: IFSH>20THEN234
231 IFAH>123ANDAH<133ANDAU<69AND
AU>61THENSA=SA+(RND(10)*10): PLAY
"V31L10T503A04A": FORZZ=1TO6: CIRC
LE(AH,AU),ZZ: CIRCLE(AH,AU),ZZ,0:
EXEC43345: NEXTZZ
232 LINE(10,90)-(128,65),PRESET:
LINE(245,90)-(128,65),PRESET: LIN
E(10,88)-(128,65),PRESET: LINE(24
5,88)-(128,65),PRESET
233 GOTO215
234 LINE(11,41)-(244,89),PRESET,
BF
235 PLAY"L20T5V3001ACACAC"
236 X=40: Y=50: W$="FOR YOUR 20 SH
OTS": GOSUB17: X=40: Y=60: W$="YOU S
CORED -"+STR$(SA): GOSUB17
237 SC=SC+SA

```



**PROGRAMS**

```

238 X=40:Y=70:W$="ANY KEY TO CON
TINUE":GOSUB17
239 EXEC44539
240 LINE(11,41)-(244,89),PRESET,
BF:LINE(10,74)-(245,78),PSET,BF
241 RETURN
242 'MAP ROUTINE
243 IFLV=10THENWIN=1:RETURN
244 LINE(10,100)-(110,180),PSET,
BF:LINE(11,101)-(109,179),PRESET
,BF
245 DRAW"BM17,100;D3G2D2F2R3E3F3
D4F2D5F2R1E3R2E2U4E2U4H2U3H2":DR
AW"BM10,128;R3F1R1E2R2H2U4H1U2E1
U2E2R1F2D3G2D2F2R3F2R1U2E1R4
F2E4R1F3R1E2U4E2R1U3R1U2R2D1F2E2
U1H2U1E1U1E2R6F2R3E2U2H2L3G1H1L2
G2L1H4U2"
246 DRAW"BM42,120;U3R3D2G2L2":PO
KE178,2:PAINT(13,103),,1:POKE178
,3:DRAW"COBM12,128U2R2D1;BM22,12
OR2U2G2":DRAW"C1BM73,100D2R2E1L4
"
247 DRAW"BM10,165R2E2R2F2R1D5F2D
1F5D2;BM12,172E2R1D3G1L2NU4BD4NG
2R1F1":POKE178,2:PAINT(13,175),,
1:POKE178,3:DRAW"BM37,180H2U2H3U
1H2U1H1L1U3E1R2E2R1D1F3D2F2D1F3U
1F3D2F2":POKE178,2:PAINT(40,178)
,,1:POKE178,3
248 DRAW"BM70,180U2E2R2U1L1U2L3U
2R2E2U3E3R4E2R4E4U2E3R2D2G3R2G3D
3L3G1L2H1G2D1F1R3E2R1E3R4D1R4D1R
7F1":DRAW"BM76,180H2E2R4U1R3U1R7
E2R4F3R4E1R4E2":POKE178,2:PAINT(
85,170),,1:POKE178,3
249 M=27:N=135:GOSUB283
250 M=48:N=138:GOSUB283
251 M=58:N=147:GOSUB283
252 M=70:N=145:GOSUB283
253 M=68:N=133:GOSUB283
254 M=73:N=110:GOSUB283
255 M=85:N=140:GOSUB283
256 M=85:N=148:GOSUB283
257 M=99:N=151:GOSUB283
258 M=94:N=123:GOSUB283
259 GOSUB284
260 X=15:Y=150:W$="Level:":GOSUB
17
261 ONLV+1 GOTO262,263,264,265,2
66,267,268,269,270,271
262 CIRCLE(27,135),3:CIRCLE(27,1
35),2,0:X=15:Y=160:W$="BERLIN":G
OSUB17:GOTO272
263 CIRCLE(48,138),3:CIRCLE(48,1
38),2,0:X=15:Y=160:W$="WARSAW":G
OSUB17:GOTO272
264 CIRCLE(58,147),3:CIRCLE(58,1
47),2,0:X=15:Y=160:W$="LVOV":GOS
UB17:GOTO272
265 CIRCLE(70,145),3:CIRCLE(70,1
45),2,0:X=15:Y=160:W$="KIEV":GOS
UB17:GOTO272
266 CIRCLE(68,133),3:CIRCLE(68,1
33),2,0:X=15:Y=160:W$="MINSK":GO
SUB17:GOTO272
267 CIRCLE(73,110),3:CIRCLE(73,1
10),2,0:X=15:Y=160:W$="LENINGRAD
":GOSUB17:GOTO272
268 CIRCLE(85,140),3:CIRCLE(85,1
40),2,0:X=15:Y=160:W$="KURSK":GO
SUB17:GOTO272
269 CIRCLE(94,123),3:CIRCLE(94,1

```

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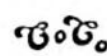
23),2,0:X=15:Y=160:W$="MOSCOW":G
OSUB17:GOTO272
270 CIRCLE(85,148),3:CIRCLE(85,1
48),2,0:X=15:Y=160:W$="KHARKOV":
GOSUB17:GOTO272
271 CIRCLE(99,151),3:CIRCLE(99,1
51),2,0:X=15:Y=160:W$="STALINGRA
D":GOSUB17:GOTO272
272 IFLV=6ORLV=8THENLT=4:GOTO274
273 IFLV=7ORLV=9THENLT=5ELSELT=L
V
274 LINE(165,176)-(220,184),PRES
ET,BF
275 X=165:Y=182:IFLT=0THENW$="ST
ART":GOSUB17ELSEIFLT=1THENW$="TY
PE 1":GOSUB17ELSEIFLT=2THENW$="T
-70":GOSUB17ELSEIFLT=3THENW$="BT
-7":GOSUB17ELSEIFLT=4THENW$="T-3
4":GOSUB17ELSEIFLT=5THENW$="IS-2
":GOSUB17
276 LINE(165,167)-(190,175),PRES
ET,BF
277 IFLL=2THENLT=5ELSELT=8
278 X=165:Y=172:W$=STR$(INT((T*
5)/LT)/2.5)*10):GOSUB17
279 TE=INT((T*5)/LT)/2.5)*10
280 LINE(156,157)-(190,165),PRES
ET,BF:TP=0
281 IFLT=4THENGOSUB209
282 RETURN
283 CIRCLE(M,N),2:RETURN
284 DRAW"BM27,135;M48,138;M58,14
7;M70,145;M68,133;M73,110;BM70,1
45;M85,140;M94,123;BM70,145;M85,
148;M99,151":RETURN
285 'WIN/LOSE
PLAY AGAIN/CONTINUE
286 IFWIN=-1THEN305
287 PMODE4,1:SCREEN1,1:PCLS
288 LINE(20,20)-(235,171),PSET,B
:LINE(10,10)-(245,181),PSET,B:PO
KE178,2:PAINT(5,5),,1:POKE178,1:
PAINT(15,15),,1:POKE178,3
289 DRAW"BM32,32;R24D36G12H12U36
BF4R16D32G8H8U32;BM44,80;D8":POK
E178,116:PAINT(34,34),,1:POKE178
,43:PAINT(38,38),,1:POKE178,3
290 DRAW"BM36,88;R16D12R12D16L12
D12L16U12L12U16R12U12":DRAW"BM40
,92;R8D12R12D8L12D12L8U12L12U8R1
2U12":PAINT(38,90),1,1
291 X=80:Y=40:W$="---CONGRATULAT
IONS---":GOSUB17
292 PLAY"L2T10V31O3CCEDFL1G"
293 X=75:Y=55:W$="You have compl
eted":GOSUB17:X=75:Y=65:W$="your
mission to destroy":GOSUB17:X=7
5:Y=75:W$="the Red Army !!!":GOS
UB17294 X=75:Y=85:W$="The Kaiser
himself has":GOSUB17:X=75:Y=95:
W$="personally awarded you the":
GOSUB17:X=75:Y=105:W$="highest m
ilitary award -":GOSUB17:X=75:Y=
115:W$="THE IRON CROSS":GOSUB17
295 X=75:Y=130:W$="YOUR SCORE IS
-+STR$(SC+(10000*LL)):GOSUB17
:SC=SC+(10000*LL)
296 X=30:Y=145:W$="PRESS 'E' TO
END":GOSUB17:X=30:Y=155:W$="'N'
TO BEGIN A NEW GAME":GOSUB17:X=3
0:Y=165:W$="OR 'C' TO CONTINUE P
RESENT GAME":GOSUB17
297 EES=INKEY$

```

```

298 IFEE$="E"THEN302
299 IFEE$="N"THENW$=""GOTO64
300 IFEE$="C"THENLV=1:VIN=0:W$=
W$+" ":GOSUB49:GOSUB242:GOTO80
301 GOTO297
302 CLS5
303 PRINT@96," THANK YOU FOR
PLAYING ---- OPERATION BA
RBAROSSA ---- BY VICTOR
KOSS"
304 END
305 'RATING
306 PMODE4,1:PCLS:SCREEN1,1
307 FORX=1TO50STEP2:CIRCLE(128,9
6),X,,.6:PLAY"L50T30V200ID":NEXT
X
308 FORX=1TO50STEP3:LINE(X,X)-(2
55-X,191-X),PSET,B:NEXTX
309 FORX=1TO100:LINE(128,96)-(RN
D(255),RND(191)),PSET:EXEC43345:
NEXTX
310 PMODE4,1:SCREEN1,1:PCLS
311 LINE(10,10)-(245,181),PSET,B
F:POKE178,1:PAINT(5,5),,1:POKE17
8,3:DRAW"CO"
312 X=15:Y=30:W$="YOU HAVE BEEN
DESTROYED AND SO":GOSUB17:X=15:Y
=40:W$="CAN NO LONGER CONTINUE T
HE FIGHT":GOSUB17:X=15:Y=50:W$="
AGAINST THE RELENTLESS RED ARMY
!!!":GOSUB17
313 X=15:Y=70:W$="However you ma
naged to get to level"+STR$(LV):
GOSUB17:X=15:Y=80:W$="and obtain
a score of "+STR$(SC):GOSUB17
314 IFLV=1THENS$="GARBAGE SCRUB
BER"
315 IFLV=2THENS$="PRIVATE 2ND C
LASS"
316 IFLV=3THENS$="PRIVATE 1ST C
LASS"
317 IFLV=4THENS$="CORPORAL"
318 IFLV=5THENS$="SERGEANT"
319 IFLV=6THENS$="LIEUTENANT 2N
D CLASS"
320 IFLV=7THENS$="LIEUTENANT 1S
T CLASS"
321 IFLV=8THENS$="MAJOR"
322 IFLV=9THENS$="COMPANY COMMA
NDER"
323 X=15:Y=100:W$="YOU LEVEL OF
RANKING IS -":GOSUB17:X=15:Y=110
:W$=SS$:GOSUB17
324 X=15:Y=150:W$="PRESS 'E' TO
END":GOSUB17:X=15:Y=160:W$="OR '
N' FOR NEW GAME":GOSUB17
325 DRAW"C1"
326 EES=INKEY$
327 IFEE$="E"THEN302
328 IFEE$="N"THENW$=""GOTO64
329 GOTO326

```





# BIORHYTHM

by J. Nahigian & W. Hodges 32K ECB CoCo 3

**B**IORHYTHM IS A program designed to report your highs and lows at anytime throughout the year. What is a Biorhythm? A Biorhythm is the rhythmic course of the life process of organisms.

This program reports on three particular biorhythms; the physical phase (in yellow), the emotional phase (in red), and the cognitive (or intellectual) phase (in cyan, or light blue).

Reading your biorhythm. The median line (the line in dark blue) is the time you are most prone to accidents. The high periods (the "+") are when you are full of energy, alert, etc. while the low periods (the "-") are regarded as periods where you aren't full of energy and alertness; you need time to recuperate.

The program. After RUNNING, it will ask of you the current date. Enter month and day, then year. Press ENTER and you are asked your birthdate. Like entering your date, enter month and day, then year. Press ENTER.

It asks for your name. Enter it and press ENTER. Now, the crucial question; how many weeks do you want to have read? Enter the number of weeks to be read and press ENTER.

Here you are told some general information and are reminded what the colours mean, ie red = emotional, cyan = cognitive, and yellow = physical.

Pressing ENTER again and you are shown how long you have lived for in days and the day you were born on. Something trivial. Press ENTER again.

Here the fun starts. This is the time to either start worrying or to start feeling happy. If you chose more than three weeks, the screen will fill to the bottom and the computer will ask of you to press any key (shown in bottom left corner, flashing). If this happens, just press any key.

After your reading, you have the option of running the program again or quitting and letting someone else have a go.

Mind you, this program is meant to be for entertainment only. Not to be taken seriously.

## The Listing

```

0 GOTO10
1 ***** Biorhythm *****
2 ** Converted by Alex for CoCo III **
3 SAVE"3BIO":END
10 WIDTH40:PALETTE0,19:CLS1
20 LOCATE0,7:PRINTTAB(7);:ATTR0,1:PRINT
  Plotting your Biorhythm ";:ATTR0,0
30 LOCATE0,9:PRINTTAB(2);:ATTR0,5:PRINT
  Converted by Alex for the CoCo III ";:A
  TTR0,0
40 LOCATE0,12:PRINTTAB(8);:ATTR0,3:PRINT
  " Program originally by ";:ATTR0,0
50 LOCATE0,14:PRINTTAB(8);:ATTR0,3:PRINT
  " J Nahigian & W Hodges ";:ATTR0,0
60 LOCATE0,20:PRINTTAB(7);:ATTR0,1:PRINT
  " Press ";:ATTR0,1,B:PRINT"Any Key";:ATT
  R0,1:PRINT" to Start ";:ATTR0,0
70 EXEC44539
80 WIDTH40:PALETTE0,19:CLS1:ATTR0,1:PRIN
  TAB(8)"Plotting your Biorhythm":ATTR0,0
  :PRINT
90 LOCATE0,22:ATTR0,1:PRINTTAB(5)"Enter
  Numbers, Press <ENTER>":ATTR0,0:LOCATE0,
  3
100 DIM A(12),D(12),N(25)
110 FORI=1TO12:READ A(I):NEXT
120 FORI=1TO12:READ D(I):NEXT
130 DATA 0,31,59,90,120,151,181,212,243,
  273,304,334
140 DATA 31,28,31,30,31,30,31,31,30,31,3
  0,31
150 P=6.28318
160 PRINT" Enter today's date:":INPUT"
  (MM,DD,YYYY)";M,D,Y
170 M2=M:D2=D:Y3=Y

```

```

180 Y5=Y
190 GOSUB310:Z=T
200 PRINT:PRINT" Enter Birthdate:":INPU
  T" (MM,DD,YYYY)";M,D,Y
210 M1=M:D1=D:Y2=Y
220 GOSUB310:V=T-Z
230 V=ABS(V)
240 POKE282,255
250 PRINT:INPUT" Enter Name";WS
260 FORI=1TOLEN(WS):A$=MID$(WS,I,1)
270 IF I=1THEN 290
280 MID$(WS,I,1)=CHR$(ASC(A$)+32)
290 NEXT
300 GOTO440
310 Y1=Y-1800:Q1=INT(Y1/4)
320 Q2=INT(Q1/25):Q3=INT((Y1+200)/400)
330 K=0:IF Q1*4=Y1 THEN350
340 GOTO380
350 IF Q2*100=Y1 THEN360ELSE380
360 IF Q3*400-200=Y1 THEN370ELSE380
370 K=1
380 T=365*Y1+Q1-Q2+Q3-K
390 T=T+A(M)+D-1:IF M<3THEN410
400 T=T+K
410 IF INT(Y1/4)=Y1/4THEN420ELSE430
420 IF M>2THEN 430ELSE T=T-1
430 J=T-7*INT(T/7):RETURN
440 N(X)=0:PRINT
450 PRINT" How many weeks to graph?":IN
  PUT" (Default = 2 weeks)";D9
460 IF D9=0THEN D9=2
470 D9=D9*7
480 CLS
490 ATTR0,1:PRINTTAB(6)"Plotting your Bi
  orhythm":ATTR0,5:PRINTTAB(10)"General In
  formation":ATTR0,0:
500 PRINT:PRINT" The median line (0) is
  your critical point and is when most
  accidents occur.":PRINT

```

```

510 PRINT " The high periods (+) are when you have the most energy.":PRINT
520 PRINT " The low periods (-) are regarded as recuperative periods."
530 PRINT:ATTRO,5:PRINTTAB(12)"Graphic Symbols":ATTRO,0
540 PRINT:PRINT " ";:ATTRO,2:PRINT " ";:ATTRO,0:PRINT": Median Line (0 Line)"
550 PRINT " ";:ATTRO,1:PRINT " ";:ATTRO,0:PRINT": Physical Line (23-Day)"
560 PRINT " ";:ATTRO,3:PRINT " ";:ATTRO,0:PRINT": Sensitivity Line (28-Day)"
570 PRINT " ";:ATTRO,5:PRINT " ";:ATTRO,0:PRINT": Cognitive Cycle (33-Day)"
580 LOCATE0,22:ATTRO,1:PRINTTAB(4)"Press <ENTER> to Start Plotting":ATTRO,0
590 AS=INKEY$: IF AS=CHR$(13)THEN600ELSE590
600 CLS
610 ATTRO,1:PRINTTAB(8)"Plotting your Birth rhythm":ATTRO,0
620 PRINT:PRINT " Your birthday is ";:A9=M1:GOSUB1210:PRINTD1;Y2"."
630 PRINT " It was a ";:B9=J+1:GOSUB1340:PRINT"."
640 PRINT:PRINT " It occurred "V"days or";
650 PRINTINT((V/365)*100)/100"years":PRINT " ago."
660 PRINT:PRINT " Here is the graph for "Ws",
670 PRINT " starting on ";:A9=M2:GOSUB1210:PRINT D2;Y3;
680 PRINT"and":PRINT " ending on the ";:M9=M2:D8=D2+D9-1:Y9=Y3
690 IF M9>12THEN700ELSE710
700 M9=1:Y9=Y9+1
710 IF M9=2THEN720ELSE740
720 IF INT(Y9/4)=Y9/4THEN730ELSE740
730 K=1
740 IF D8>D(M9)+K THEN750ELSE770
750 D8=D8-(D(M9)+K):M9=M9+1:K=0
760 GOTO690
770 A9=M9:GOSUB1210:PRINT D8;Y9
780 LOCATE 0,22:ATTRO,1:PRINTTAB(10)"Press <ENTER>":ATTRO,0
790 AS=INKEY$: IF AS=CHR$(13)THENCLSELSE790
800 WIDTH80
810 ATTRO,0,U:PRINTTAB(7)"Date";TAB(11)"(-) (0) (+)";:ATTRO,0:PRINT
820 J1=V+J:J1=J1-7*INT(J1/7):D2=D2-1:J1=J1-1:V=V-1:K=0
830 DN=2:FORI=1TO D9:V=V+1:D2=D2+1:J1=J1+1: IF M2=2THEN850
840 GOTO870
850 IF INT(Y3/4)=Y3/4 THEN860ELSE870
860 K=1
870 IF D2>D(M2)+K THEN880ELSE890
880 M2=M2+1:D2=1
890 IF J1<7THEN900ELSEJ1=0
900 IF M2>12THEN910ELSE920
910 PRINTTAB(32);:ATTRO,7:PRINT " ** Happy New Year ** ";:ATTRO,0:PRINT:M2=1:Y3=Y3+1:DN=DN+1
920 IF J1+1=3THEN930ELSE960
930 IF D2=13THEN 950
940 GOTO960
950 PRINTTAB(26);:ATTRO,7:PRINT " **Beware!! Friday the Thirteenth ** ";:ATTRO,0:PRINT:DN=DN+1
960 IF M2=M1 THEN 980
970 GOTO1000
980 IF D2=D1 THEN990ELSE1000
990 PRINTTAB(32):ATTRO,7:PRINT " ** Happy "ABS(Y3-Y2)"th Birthday ** ";:ATTRO,0:PRINT:DN=DN+1

```

```

1000 E9=J1+1:PRINT " ";:GOSUB1560
1010 PRINT " ";:C9=M2:GOSUB1430:PRINT USING" ##";D2;:PRINTY3;
1020 X=23:GOSUB1640:P5=X:X=28:GOSUB1640:S5=X:X=33:GOSUB1640:C5=X
1030 N=0:FORL=19TO 65:LOCATE L,DN
1040 IF P5=L THEN1050ELSE1060
1050 ATTRO,1:PRINT " ";:ATTRO,0:GOTO1120
1060 IF S5=L THEN1070ELSE1080
1070 ATTRO,3:PRINT " ";:ATTRO,0:GOTO1120
1080 IF C5=L THEN1090ELSE1100
1090 ATTRO,5:PRINT " ";:ATTRO,0:GOTO1120
1100 IF 44=L THEN 1110ELSE1150
1110 ATTRO,2:PRINT " ";:ATTRO,0
1120 N=N+1: IF N=4THEN 1140
1130 GOTO1150
1140 '
1150 NEXTL:DN=DN+1: IF DN=22 THEN LOCATE0,22:ATTRO,0,B:PRINT " Press any key";:ATTRO,0:EXEC44539:DN=2:LOCATE0,22:PRINT":GOTO1160
1160 LOCATE0,DN:NEXT I
1170 PRINT:PRINT:PRINT:PRINT " Your"D9"weeks have been plotted. Would you like another reading?"
1180 AS=INKEY$:IFA$=""THEN1180
1190 IF AS="Y"THENRUN80
1200 IF AS="N"THENCLS:RUNELSE1170
1210 ON A9 GOTO1220,1230,1240,1250,1260,1270,1280,1290,1300,1310,1320,1330
1220 PRINT"January";:RETURN
1230 PRINT"February";:RETURN
1240 PRINT"March";:RETURN
1250 PRINT"April";:RETURN
1260 PRINT"May";:RETURN
1270 PRINT"June";:RETURN
1280 PRINT"July";:RETURN
1290 PRINT"August";:RETURN
1300 PRINT"September";:RETURN
1310 PRINT"October";:RETURN
1320 PRINT"November";:RETURN
1330 PRINT"December";:RETURN
1340 ON B9 GOTO1350,1360,1370,1380,1390,1400,1410,1420
1350 PRINT"Wednesday";:RETURN
1360 PRINT"Thursday";:RETURN
1370 PRINT"Friday";:RETURN
1380 PRINT"Saturday";:RETURN
1390 PRINT"Sunday";:RETURN
1400 PRINT"Sunday";:RETURN
1410 PRINT"Monday";:RETURN
1420 PRINT"Tuesday";:RETURN
1430 ON C9 GOTO1440,1450,1460,1470,1480,1490,1500,1510,1520,1530,1540,1550
1440 PRINT"Jan";:RETURN
1450 PRINT"Feb";:RETURN
1460 PRINT"Mar";:RETURN
1470 PRINT"Apr";:RETURN
1480 PRINT"May";:RETURN
1490 PRINT"Jun";:RETURN
1500 PRINT"Jul";:RETURN
1510 PRINT"Aug";:RETURN
1520 PRINT"Sep";:RETURN
1530 PRINT"Oct";:RETURN
1540 PRINT"Nov";:RETURN
1550 PRINT"Dec";:RETURN
1560 ON E9 GOTO1570,1580,1590,1600,1610,1620,1630
1570 PRINT"Wed";:RETURN
1580 PRINT"Thu";:RETURN
1590 PRINT"Fri";:RETURN
1600 PRINT"Sat";:RETURN
1610 PRINT"Sun";:RETURN
1620 PRINT"Mon";:RETURN
1630 PRINT"Tue";:RETURN
1640 X=INT(SIN((V/X-INT(V/X))*P)*18)+44
1650 RETURN

```

# LIGHTCYCLES

by Jamie Cameron



16K ECB  
GAME

**L**IGHTCYCLES REQUIRES two players, each with one joystick. The game is based on the movie TRON, by an American film maker. It is played on a PMODE 3 screen, using four colors, namely red, blue, green and yellow. The screen is divided into a grid of 25 x 19, which is green on a yellow background.

Each player controls a cycle, which starts in the corners of the screen. The cycles leave behind red and blue lines respectively. The cycles are controlled by moving the joystick in whichever direction you want to go.

The aim of the game is to force your opponent to crash into either your line, his line, or the edge. This can be achieved by devious maneuvers, such as cutting your opponent off suddenly or blocking his way.

When you or your opponent crashes, a series of concentric circles increasing in size will appear at the location of the loser's crash. The screen will then flash the winner's color.

**NOTE:** It is possible for the two cycles to collide and this will result in a double sized explosion at the point of impact.

```

0 GOTO10
1 '***** LIGHT CYCLES *****
  ***** JAMIE CAMERON *****
3 SAVE"CYCLE:3":END
10 CLS
20 PRINT@10,"lightcycles"
30 PRINT@46,"BY"
40 PRINT@76,"JAMIE"
50 PRINT@107,"CAMERON"
60 PRINT@170,"COPYRIGHT"
70 PRINT@205,"1985"
80 PRINT" HIT ANY KEY TO BE
GIN":EXEC 44539
90 PMODE 3,1:PCLS:SCREEN 1,0
100 LINE(0,0)-(250,190),PSET,B
110 COLOR 2,1
120 FOR X=0TO250 STEP 10
130 LINE(X,1)-(X,190),PSET
140 NEXT X
150 FOR X=0 TO 190 STEP 10
160 LINE(1,X)-(250,X),PSET
170 NEXT X
180 R(1)=240:R(2)=10
190 B(1)=10:B(2)=10
200 COLOR 3,1
210 LINE(B(1),B(2))-(B(1),B(2)),
PSET
220 Q=JOYSTK(0):W=JOYSTK(1)
230 E=JOYSTK(2):A=JOYSTK(3)
240 V(1)=B(1):V(2)=B(2)
250 G(1)=R(1):G(2)=R(2)
260 IF Q=63 THEN R(1)=R(1)+10:GO
TO 300
270 IF Q=0 THEN R(1)=R(1)-10:GOT
O 300
280 IF W=63 THEN R(2)=R(2)+10:GO
TO 300
290 IF W=0 THEN R(2)=R(2)-10:GOT
O 300
300 IF E=63 THEN B(1)=B(1)+10:GO
TO 340

```

```

310 IF E=0 THEN B(1)=B(1)-10:GOT
O 340
320 IF A=63 THEN B(2)=B(2)+10:GO
TO 340
330 IF A=0 THEN B(2)=B(2)-10:GOT
O 340
340 IF B(1)=250 OR B(1)=0 THEN 5
60
350 IF B(2)=190 OR B(2)=0 THEN 5
60
360 IF R(1)=250 OR R(1)=0 THEN 5
00
370 IF R(2)=190 OR R(2)=0 THEN 5
00
380 IF B(1)=R(1) AND B(2)=R(2) T
HEN 620
390 IF PPOINT(B(1),B(2))=4 THEN
500
400 IF PPOINT(B(1),B(2))=3 THEN
560
410 IF PPOINT(R(1),R(2))=3 THEN
500
420 IF PPOINT(R(1),R(2))=4 THEN
500
430 COLOR 3,1
440 LINE(V(1),V(2))-(B(1),B(2))
,PSET
450 PSET(B(1),B(2),4):PRESET(B(1

```

```

),B(2))
460 COLOR 4,1
470 LINE(G(1),G(2))-(R(1),R(2)),
PSET
480 PSET(R(1),R(2),3):PRESET(R(1
),R(2))
490 GOTO 220
500 FOR X=1 TO 20
510 CIRCLE(R(1),R(2)),X
520 NEXTX
530 PCLS(3)
540 FOR X=1TO 500:NEXT X
550 GOTO 90
560 FOR X=1TO 20
570 CIRCLE(B(1),B(2)),X
580 NEXT X
590 PCLS(4)
600 FOR X=1TO 500:NEXT X
610 GOTO 90
620 FOR X=1TO50
630 CIRCLE(B(1),B(2)),X
640 NEXT X
650 FOR X =50 TO 1 STEP -1
660 CIRCLE(B(1),B(2)),X,1
670 NEXT X
680 GOTO 90

```

©88.

# FILE

## 32K ECB UTILITY



by D.R. Messer

**F**ILE is a simple database program written in Microsoft Extended Color Basic for a 32K Color Computer connected to a DMP-105 printer. Using "CONVERT.64K" and "64K BASIC" written by Jorge Mir, published in Australian Rainbow in March 1984, the program may be converted to run on a 64K computer with the following modification to line 26:  
26 CLEAR 25000.

The program creates a sequential file and saves it to tape.

### LOADING INSTRUCTIONS

32K MACHINES: POKE 25,6:NEW.

This will provide maximum available memory for file handling. CLOAD and RUN the program.

If Jorge Mir's loader programs are to be used, just follow their instructions but be sure to change line 26 so that extra memory is cleared.

### OPERATING INSTRUCTIONS

"FILE" is menu driven. When the program is RUN, the Menu appears. Press the first letter of the menu subroutine to be used.

#### CREATE FILE

The machine will clear the memory areas where the arrays are to be stored. The prompt:

"Enter File Title" requires a file name to be entered. Any suitable name containing eight letters or less will be accepted. If the file is to be used to print mailing labels, the last letter of the file title must be "M", e.g. FILEM

The next prompt is:

"Enter Number of Fields"

Any number of fields up to 20 may be used.

If the program is to be used to print mailing labels, the first six fields must be:

- (1) TITLE to accept MR, MRS, MISS, or MS
- (2) CHRISTIAN NAME
- (3) SURNAME
- (4) STREET (No. & Name)
- (5) CITY
- (6) POSTCODE

If no mailing labels are to be printed, the field names are any that may be required. If a mistake is made, press <ENTER> until the prompt at the bottom of the screen allows a new start.

The next prompts that will appear will be:

"Field Name"  
"Field Length"

... and will continue until all fields have been named and dimensioned.

The program will accept a total of 255 bytes for all fields. If a mistake is made, press <ENTER> until the prompts at the bottom of the screen allow a new start.

Once the fields have been set up, then the screen will prompt data entry. Fail-safe routines have been incorporated in the program so that data entry remains within dimensioned limits.

Screen prompts alert the user if a mistake has

been made. If data is incorrectly entered, press <ENTER> until a prompt will allow a return to the start of data entry.

Follow screen prompts to save data.

#### EDIT FILE

Follow the screen prompts to retrieve the required file to edit and the file number to edit. The number can be obtained from a print-out of the file.

The screen will display the field name and the information in that field. Use the down-arrow key to move to the next field or the spacebar to choose the field to edit.

When the spacebar is used, the cursor will show where to print. Type over the existing information and press <RETURN>.

Any field may be edited in this way. Use the down-arrow key to go to the file end and follow the prompts to end, continue or save.

#### PRINT FILE

Press "P" from the menu to obtain this option. Follow the screen prompts to obtain the printout.

#### SELECT DATA

Follow the screen prompts to load the file. The screen will display the first field. Use the down-arrow to move down or the spacebar to choose the field.

When the first search has been printed, a prompt will appear at the bottom of the screen:

"And Or End"

Press the first letter of each word to choose the option.

"And" will allow a search of another field.

"Or" will allow another search of the same field.

All information will be printed.

#### DELETE FILE

The first field in every file contains a "\*". The first field that can be accessed is numbered 2. Follow the screen prompts to load the file. If an entry is to be deleted, the program replaces the "\*" with "D".

The entry is retained and can be printed. (This information may be required at some time.)

#### MAILING LABELS

Follow the screen prompts to load the file. Load the labels into the printer and position them. If the file has been setup for mailing labels, they will be printed.

Any entry with "D" will not be printed.

#### ADD FILES

Follow the screen prompts. This routine uses the CREATE FILE subroutine.

#### QUIT

Follow the screen prompts to exit the program.

#### GENERAL INFORMATION

In the 32K mode 150 entries may be made in each file. If you are desperate, about 170 may be made, but be very patient if you wish to retrieve any information.

## PROGRAMS

I have not had the patience to go past 200 entries in the 64K mode.

The program has no field sorts. They use memory that can be used to store information. The and/or selections print after each pass. Again, memory is precious.

The program is written completely in BASIC. If printer codes have to be changed, then refer to lines:

4015,4020,4025,4035,4045,4105,4160, and 4170.

For people working with disks, refer to lines 3000 to 3250 and 7000 to 7170. Any alterations should not

be too difficult. To speed up operations, all information is stored in the computer.

A power failure will cause loss of information but speed involves some risk. This program has limitations.

Many were imposed by the memory size of the machine so a compromise was reached between functions and storage capacity, with an emphasis on capacity.

It has been an interesting exercise writing the program to achieve a balance between storage, flexibility, speed, ease of operation and usefulness.

## The Listing:

```
0 GOTO20
3 SAVE"FILE:3"
4 END
20 'FILE
21 'COPYRIGHT D.R.MESSER, 315 AN
N ST, MARYBOROUGH,4650
22 '10/4/86
23 'MICROSOFT EXTENDED COLOR BAS
IC 1.0
24 'PRINTER-DMP105
25 'NA$=FILE TITLE:'NN=NUMBER OF
FIELDS:'FF$(X)=FIELD NAME:'FL(X
)=FIELD LENGTH:'D$(X)=FIELD DATA
26 CLEAR 18000
27 DIMDD$(700):DIMK$(21):DIMFF$(
21):DIMD$(21):DIMFL(21):Y$(1)="D
ATA TOO LONG":Y$(0)=" ":D$(1)="*
"
500 'main program
510 CLS
520 DATA"MENU","cCREATE FILE","eD
IT FILE","pPRINT FILE","sSELECT DA
TA","mALLING LABELS"
530 DATA"dDELETE FILE","aADD FILES
","qQUIT"
540 FORX=1TO9:READRD$(X):NEXTX:R
ESTORE
550 PRINT@46,RD$(1):PRINT@106,RD
$(2):PRINT@138,RD$(3):PRINT@170,
RD$(4):PRINT@202,RD$(5):PRINT@23
4,RD$(6):PRINT@266,RD$(7):PRINT@
298,RD$(8):PRINT@330,RD$(9)
560 PRINT@298,RD$(8):PRINT@330,R
D$(9)
570 I$=INKEY$:IFI$="" THEN570
580 IFI$="C" THEN1000
590 IFI$="E" THEN2000
600 IFI$="R" THEN3000
610 IFI$="P" THEN4000
620 IFI$="S" THEN5000
630 IFI$="M" THEN6000
640 IFI$="F" THEN7000
650 IFI$="D" THEN8000
660 IFI$="A" THEN9000
670 IFI$="Q" THEN10000
680 GOTO570
1000 'create file
1010 CLS:C=0
1020 PRINT" CLEARING MEMORY
"
1030 FORY=1TO700:DD$(Y)=" ":NEXT
Y
1040 FORY=1TO21:FF$(Y)=" ":NEXTY
1050 FORY=1TO21:FL(Y)=0:NEXTY
1060 FORY=1TO21:D$(Y)=" ":NEXTY
1070 CLS
1080 LINE INPUT"ENTER FILE TITLE
```

```
:";NA$
1090 LINE INPUT"ENTER NUMBER OF
FIELDS ":";Z$
1100 IF ASC(Z$)<58 THEN1110ELSE1
090
1110 NN=VAL(Z$):PRINT@418,"ARE T
HE ENTRIES CORRECT? <Y/N>"
1120 I$=INKEY$:IFI$="" THEN1120
1130 IFI$="N" THEN1070
1140 IFI$="Y" THEN1160
1150 GOTO1120
1160 P=64:T=1
1170 CLS:PRINT@(31-LEN(NA$))/2,N
A$
1180 FORX=2TONN+1
1190 PRINT@P,"#";:PRINTX;:LINE I
NPUT"ENTER FIELD NAME ":";FF$(X)
1200 P=P+32
1210 PRINT@P,"#";:PRINTX;:LINE I
NPUT"ENTER FIELD LENGTH ":";K$(X)
1220 IFASC(K$(X))<58 THEN1230ELSE
E1210
1230 FL(X)=VAL(K$(X))
1240 T=T+FL(X):IF T>254 THEN 125
0 ELSE 1260
1250 PRINT@416,"** FIELD LENGTH
TOO LONG **":FORI=1TO700:NEXTI:G
OTO1160
1260 P=P+32
1270 IFP=448 THENCLS:P=64
1280 NEXTX
1290 PRINT@416,"ARE THE ENTRIES
CORRECT? <Y/N>"
1300 I$=INKEY$:IFI$="" THEN1300
1310 IFI$="Y" THEN1340
1320 IFI$="N" THEN1160
1330 GOTO1300
1340 C=C+1:Z=64
1350 CLS:PRINT@(31-LEN(NA$))/2,N
A$
1360 PRINT@32,"#C:PRINT@50,"MEM
=";:PRINTMEN
1370 FORX=2TONN+1
1380 PRINT@Z,FF$(X);:PRINT" :";
:LINE INPUT D$(X)
1390 L=LEN(D$(X))
1400 IFL<FL(X) THEND$(X)=D$(X)+"
":GOTO1390
1410 IFL>FL(X) THEND$(X)=" ":PRI
NT@416,Y$(1):GOTO 1380
1420 IFL=FL(X) THEN1430
1430 PRINT@416,Y$(0)
1440 Z=Z+32
1450 IFZ=416 THENCLS:Z=32
1460 NEXTX
1470 PRINT@416,"IS THE FILE CORR
ECT? <Y/N>"
1480 I$=INKEY$:IFI$="" THEN1480
1490 IFI$="N" THENC=C-1:GOTO1340
```

```
1500 IFI$="Y" THEN1520
1510 GOTO1480
1520 D$(1)="*":DD$(C)=D$(1)
1530 FORX=2TO(NN+1):DD$(C)=DD$(C
)+D$(X):NEXTX
1540 PRINT@448,"TYPE e TO END c
TO CONTINUE"
1550 I$=INKEY$:IFI$="" THEN1550
1560 IFI$="E" THENGOTO7000
1570 IFI$="C" THEN1340
1580 GOTO1550
1590 GOTO500
2000 'edit file
2010 CLS:LINE INPUT"ENTER FILE N
AME TO EDIT ":";NA$
2020 GOSUB3000
2030 CLS:LINE INPUT"ENTER FILE N
O. TO EDIT ":";K$
2040 IFASC(K$)<58 THEN2050ELSE20
30
2050 K=VAL(K$)
2060 D$(1)=LEFT$(DD$(K),1):D$(2)
=RIGHT$(DD$(K),2):R=2
2070 FORX=3TO(NN+1):R=R+FL(X-1):
D$(X)=LEFT$(DD$(K),R,FL(X)):NEXT
X
2080 CLS:PRINT@(31-LEN(NA$))/2,N
A$
2090 H$="EDIT FILE":PRINT@(31-LE
N(H$))/2,H$:Z=64
2100 FORX=2TO(NN+1)
2110 PRINT@Z,FF$(X);:PRINT" :";:
PRINTD$(X)
2120 I$=INKEY$:IFI$="" THEN 212
0
2130 IFI$=CHR$(10) THEN2220
2140 IFI$=CHR$(32) THEN2160
2150 GOTO2130
2160 PRINT@Z,FF$(X);:PRINT" :";:
LINE INPUTD$(X)
2170 L=LEN(D$(X))
2180 IFL<FL(X) THEND$(X)=D$(X)+"
":GOTO2170
2190 IFL>FL(X) THEN2210
2200 IFL=FL(X) THEN2220
2210 PRINT@416,Y$(1):GOTO 2160
2220 PRINT@416,Y$(0):Z=Z+32:IF Z
=480 THENZ=32:CLS
2230 NEXT X
2240 PRINT@416,"IS THE FILE CORR
ECT? <Y/N>"
2250 I$=INKEY$:IFI$="" THEN2250
2260 IFI$="N" THEN2080
2270 IFI$="Y" THEN2290
2280 GOTO2250
2290 DD$(K)=D$(1)
2300 FORX=2TO(NN+1):DD$(K)=DD$(K
)+D$(X):NEXTX
2310 PRINT@448,"TYPE e TO END c
```

```

TO CONTINUE"
2320 I$=INKEY$: IF I$="" THEN 2320
2330 IF I$="E" THEN 2360
2340 IF I$="C" THEN 2030
2350 GOTO 2320
2360 GOSUB 7000
2370 GOTO 500
3000 'retrieve file
3010 CLS
3020 PRINT "CLEARING MEMORY"
3030 FOR Y=1 TO 700: DD$(Y)="": NEXT Y
3040 FOR Y=1 TO 21: FF$(Y)="": NEXT Y
3050 FOR Y=1 TO 21: FL(Y)=0: NEXT Y
3060 FOR Y=1 TO 21: D$(Y)="": NEXT Y: CLS
3070 C=0: R=0: PRINT "POSITION TAPE
.:": PRINT "PRESS r WHEN READY.": MOTOR ON: AUDIOON
3080 I$=INKEY$
3090 IF I$="" THEN 3080
3100 IF I$="R" THEN 3110 ELSE 3080
3110 MOTOROFF: AUDIOOFF: CLS
3120 PRINT "PRESS play KEY.": PRINT "PRESS r WHEN READY."
3130 I$=INKEY$: IF I$="" THEN 3130
3140 IF I$="R" THEN 3150 ELSE 3130
3150 CLS: PRINT "LOCATING FILE :"; NA$
3160 OPEN "I", #-1, NA$
3170 CLS: PRINT @ (31-LEN(NA$))/2, NA$
3180 INPUT #-1, NN
3190 FOR X=2 TO (NN+1): INPUT #-1, FF$(X): NEXT X
3200 FOR X=2 TO (NN+1): INPUT #-1, FL(X): NEXT X
3210 INPUT #-1, C
3220 FOR X=1 TO C: INPUT #-1, DD$(X): NEXT X
3230 CLOSE -1
3240 PRINT "DATA LOADED": FOR X=1 TO 800: NEXT X
3250 RETURN
4000 'print file
4005 CLS
4010 PRINT "READY PRINTER": LINE INPUT "ENTER FILE NAME TO PRINT :"; NA$
4015 PRINT #-2, CHR$(27); CHR$(19); CHR$(27); CHR$(14); CHR$(15); CHR$(27); CHR$(16); CHR$(0); CHR$(200); NA$; CHR$(14)
4020 PRINT #-2, CHR$(27); CHR$(15)
4025 CLS: PRINT "LOCATING FILE "; NA$
4030 GOSUB 3000
4035 PRINT #-2, CHR$(27); CHR$(20)
4040 FOR N=1 TO 3: FF$(2)=FF$(2)+" ": NEXT N
4045 PRINT #-2, CHR$(27); CHR$(16); CHR$(0); CHR$(50); FF$(2);
4050 FOR Y=3 TO NN+1
4055 L=LEN(FF$(Y))
4060 IFL=FL(Y)+3 THEN 4075
4065 FF$(Y)=FF$(Y)+" "
4070 GOTO 4055
4075 PRINT #-2, FF$(Y);
4080 NEXT Y
4085 PRINT #-2: FOR X=1 TO C
4090 PRINT #-2, X;
4095 D$(1)=LEFT$(DD$(X), 1)
4100 FOR B=1 TO 3: D$(1)=D$(1)+" ": NEXT B
4105 PRINT #-2, CHR$(27); CHR$(16); CHR$(0); CHR$(40); D$(1);
4110 D$(2)=MID$(DD$(X), 2, FL(2))
4115 FOR B=1 TO 3: D$(2)=D$(2)+" ": NEXT B
4120 PRINT #-2, D$(2);
4125 R=2
4130 FOR Y=3 TO (NN+1)
4135 R=R+FL(Y-1)
4140 D$(Y)=MID$(DD$(X), R, FL(Y))
4145 FOR B=1 TO 3: D$(Y)=D$(Y)+" ": NEXT B
4150 PRINT #-2, D$(Y);
4155 NEXT Y
4160 PRINT #-2, CHR$(27); CHR$(54)
4165 NEXT X
4170 PRINT #-2, CHR$(27); CHR$(19): FOR N=1 TO 5: PRINT #-2: NEXT N
4175 GOTO 500
5000 'select data
5010 CLS
5020 PRINT "READY PRINTER": PRINT "PRESS r WHEN READY"
5030 I$=INKEY$: IF I$="" THEN 5030
5040 IF I$="R" THEN 5050 ELSE 5030
5050 CLS: LINE INPUT "ENTER FILE TO SEARCH :"; NA$: PRINT "LOCATING FILE :"; NA$
5060 GOSUB 3000
5070 CLS: PRINT @ (31-LEN(NA$))/2, NA$
5080 F$="SEARCH BY FIELD": PRINT @ (95-LEN(F$))/2, F$
5090 Z=97
5100 FOR A=2 TO NN+1
5110 PRINT @ Z, "#";: PRINT A;: PRINT F$(A)
5120 I$=INKEY$: IF I$="" THEN 5120
5130 IF I$=CHR$(32) THEN 5170
5140 IF I$=CHR$(10) THEN 5160
5150 GOTO 5120
5160 Z=Z+32: NEXT A
5170 CLS
5180 PRINT @ 129, FF$(A);: LINE INPUT N$(A)
5190 L=LEN(N$(A))
5200 IFL=FL(A) THEN PRINT @ 416, Y$(0): GOTO 5290
5210 IFL<FL(A) THEN N$(A)=N$(A)+" ": GOTO 5190
5220 IFL>FL(A) THEN PRINT @ 416, Y$(1): GOTO 5180
5230 PRINT @ 458, "AND";: PRINT "-";: PRINT "OR";: PRINT "-";: PRINT "END"
5240 I$=INKEY$: IF I$="" THEN 5240
5250 IF I$="A" THEN 5070
5260 IF I$="O" THEN 5170
5270 IF I$="E" THEN 5540
5280 GOTO 5240
5290 FOR X=1 TO C
5300 D$(1)=LEFT$(DD$(X), 1)
5310 D$(2)=MID$(DD$(X), 2, FL(2))
5320 R=2
5330 FOR Z=3 TO (NN+1)
5340 R=R+FL(Z-1)
5350 D$(Z)=MID$(DD$(X), R, FL(Z))
5360 NEXT Z
5370 FOR W=1 TO (NN+1)
5380 IF N$(A)=D$(W) THEN GOSUB 5420
5390 NEXT W
5400 NEXT X
5410 GOTO 5230
5420 PRINT #-2, CHR$(27); CHR$(20)
5430 FOR F=1 TO (NN+1)
5440 PRINT #-2, X;
5450 FOR G=1 TO 3: D$(1)=D$(1)+" ": NEXT G
EXTG
5460 PRINT #-2, CHR$(27); CHR$(16); CHR$(0); CHR$(40); D$(1);
5470 FOR G=1 TO 3: D$(2)=D$(2)+" ": NEXT G
EXTG
5480 PRINT #-2, D$(2);
5490 FOR Z=3 TO (NN+1)
5500 FOR G=1 TO 3: D$(Z)=D$(Z)+" ": NEXT G
EXTG
5510 PRINT #-2, D$(Z);
5520 NEXT Z
5530 RETURN
5540 PRINT #-2, CHR$(27); CHR$(19)
5550 GOTO 500
6000 'mailing labels
6010 CLS
6020 LINE INPUT "ENTER FILE NAME TO PRINT :"; NA$
6030 P$=RIGHT$(NA$, 1)
6040 IF P$(">")="M" THEN GOTO 6300 ELSE 050
6050 CLS
6060 GOSUB 3000
6070 PRINT "READY PRINTER.": PRINT "PRESS r WHEN READY."
6080 I$=INKEY$: IF I$="" THEN 6080
6090 IF I$="R" THEN 6100 ELSE 6080
6100 FOR X=1 TO C
6110 IF LEFT$(DD$(X), 1)="D" THEN 6280
6120 D$(2)=MID$(DD$(X), 2, FL(2))
6130 FOR Y=1 TO LEN(D$(2))
6140 IF MID$(D$(2), Y, 1)=" " THEN 6160
6150 NEXT Y
6160 D$(2)=LEFT$(D$(2), Y)
6170 IF D$(2)="MISS" THEN D$(2)=D$(2)+" "
6180 R=2
6190 FOR Y=3 TO 7
6200 R=R+FL(Y-1)
6210 D$(Y)=MID$(DD$(X), R, FL(Y))
6220 FOR A=1 TO LEN(D$(Y))
6230 IF MID$(D$(Y), A, 2)=" " THEN D$(Y)=LEFT$(D$(Y), A)
6240 NEXT A
6250 NEXT Y
6260 PRINT #-2, CHR$(27); CHR$(16); CHR$(0); CHR$(25); D$(2); D$(3); D$(4): PRINT #-2, CHR$(27); CHR$(16); CHR$(0); CHR$(25); D$(5): PRINT #-2, CHR$(27); CHR$(16); CHR$(0); CHR$(25); D$(6); D$(7)
6270 PRINT #-2, CHR$(27); CHR$(90); CHR$(24)
6280 NEXT X
6290 GOTO 500
6300 CLS
6310 PRINT @ 228, "THIS FILE IS NOT DESIGNED":
6320 PRINT @ 265, "FOR MAILING LABELS.":
6330 FOR X=1 TO 1000: NEXT X
6340 GOTO 500
7000 'save file
7010 CLS
7020 PRINT "POSITION TAPE": PRINT "PRESS r WHEN READY.": MOTOR ON: AUDIOON

```

# CLOSE ENCOUNTERS

by Laurie O'Shea

**E**VEN WITH THE massive funds invested in Japan by both the computer industry and the government on research and development, it appears that the so-called "Fifth Generation" computer - the famed "Artificial Intelligence" may not be as successful as planned.

The Japanese saw the huge markets and profits from this development, but the manufacturers in the USA and UK were also seeking to achieve the same goals.

The aim of President Reagan's Strategic Defence Initiative (SDI) or so-called "Star Wars" project is to be a complex computer-based "decision" system. The "Fifth Generation" computers would appear to be ideal for this system, if they are developed.

The "Star Wars" concept, if it ever gets off the ground, would be almost entirely dependent on the computer systems and software to "decide" if a threat to the USA existed, and then activate the defence system.

One of the earlier benefits has been a computers potential to translate languages. There are so many different languages in the world even within the same country that trade, communications and education can become complex and sometimes almost impossible.

Research has led to the use of an almost extinct language from a little South American tribe as a "matrix". A computer scientist has found that this language can be used as a type of cross-translator enabling even complex grammatical rules, syntax and subtle differences to be translated by using this obscure tribe's language as a third party gateway. A cost benefit analysis would surely favour this sort of project.

It could help the ordinary people of the world who have neither the time nor the ability to study other languages to communicate with others in different countries.

In any case, can machines ever replace the creativity of thought and ideas that human beings are capable of generating - for example, great musicians, poets, philosophers?

The problems of the world can best be solved by the enhancement of human efforts by computer-aided techniques such as bridging language barriers,

solving complex equations, extending logic-based decision-making storing and sorting data and enabling communication transfers to become possible.

Computers are superb when it comes to logical decision making procedures and complex mathematical calculations. But what makes man (human kind) so special is our finer emotions - love, caring, loyalty, duty and the potential to put other people first.

Even with our human frailties, we ought to control the final decisions.

We, as a community, are moving closer to computer-monitored society. Already Sweden has each person allocated a computer number from birth which is used in birth, deaths, marriages, social security, driving licences and even false teeth have their number indented for identification.

It has been suggested that computers with "Artificial Intelligence" may ultimately decide the outcome of court cases, as well as critical health issues such as heart and liver transplants.

Our individuality adds to our own enjoyment of life and that of other people - for example, "Australian CoCo" and "Australian Rainbow" offer information and lots of fun. Even the little "Morphettisms" added to articles provides something different.

The same applies to robotics, combined with a level of "Artificial Intelligence", may seem attractive in relieving us of many boring or hum-drum tasks and decisions but could we trust such a system?

Computers have much to offer us in the future and we have yet to even begin to scratch the surface. They will create new horizons for a world plagued with diminishing resources, increased pollution and increasing numbers of mouths to feed.

Major benefits may come from the use of increasing complex communication channels, data storage and access, problem solving using the benefits of the massive data manipulation possible with the modern computer.

However the most important attribute needed is the individual human spirit-- not machines.

```

7030 I$=INKEY$:IF I$="" THEN7030
7040 IF I$="R" THEN7050ELSE7030
7050 MOTOROFF:AUDIOOFF
7060 CLS:PRINT"PRESS play AND re
cord KEYS.":PRINT"PRESS r WHEN R
EADY."
7070 I$=INKEY$:IF I$="" THEN7070
7080 IF I$="R" THEN7090ELSE7070
7090 OPEN"O",#-1,NA$
7100 PRINT#-1,NN
7110 FORX=2TO(NN+1):PRINT#-1,FF$
(X):NEXTX
7120 FORX=2TO(NN+1):PRINT#-1,FL(
X):NEXTX
7130 PRINT#-1,C
7140 FORX=1TOC:PRINT#-1,DD$(X):N
EXTX
7150 CLOSE -1
7160 CLS:PRINT"DATA LOADED. FILE
CLOSED.":FOR X=1 TO 800:NEXT X
7170 GOTO500
8000 'delete file
8010 CLS
8020 LINE INPUT"ENTER FILE NAME
:":NA$
8030 CLS:GOSUB3000
8040 LINE INPUT"ENTER FILE NO.TO
DELETE.":M$
8050 IFASC(M$)<58 THEN8060ELSE80
40
8060 M=VAL(M$)
8070 IFM>C THEN8080ELSE8090
8080 PRINT"FILE NUMBER TOO LARGE
.":GOTO8040
8090 D$(1)=LEFT$(DD$(M),1):D$(1)
="D":L=LEN(DD$(M)):DD$(M)=RIGHT$
(DD$(M),(L-1)):DD$(M)=D$(1)+DD$(
M)
8100 PRINT"HAVE YOU FINISHED?<Y/
N)"
8110 I$=INKEY$:IF I$="" THEN8110
8120 IF I$="N" THEN8040
8130 IF I$="Y" THEN8150
8140 GOTO8110
8150 GOSUB7000
8160 GOTO500
9000 'add files
9010 CLS:LINE INPUT"ENTER FILE T
O ADD TO.":NA$
9020 GOSUB3000
9030 GOTO1340
10000 'end
10010 CLS5:PRINT@263,"TURN COMPU
TER OFF.":
10020 FORF=1TO300:NEXTF
10030 GOTO500

```



# drawsave



I GREATLY enjoyed Johanna Vagg's "Fourdraw" graphics program, using bright low resolution colors. How difficult it would be to create such patterns by normal fixed-by-fixed sets. I used it a lot, but when I finished any particularly good screen, I was always reluctant to switch off, knowing I could never reproduce exactly the same design again.

However, when Fred Scerbo's "Titlemaker" came out in "Rainbow" recently I saw a way of interfacing portions of the two programs to create "Drawsave" - a utility to make "Fourdraw" patterns in brilliant low-res colors which can be saved as a BASIC program on tape or disk. However, like "Titlemaker", the bottom line does not appear when the design is re-run, but this line can easily be avoided when drawing the original patterns.

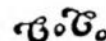
## 16K ECB

## UTILITY

## by Mal McLauchlan

### The Listing:

```
0 GOTO10
3 SAVE"DRAWSAVE:2":END
10 'drawsave, A UTILITY TO DRAW
   AND SAVE LOW RESOLUTION GRAPHIC
   SON TAPE OR DISK.*****
*2 'USES IDEAS FROM TWO PREVIOUS
   PROGRAMS BY JOHANNA VAGG AND
   FRED SCERBO*****
*
20 'ARRANGED BY MAL MCLAUCHLAN,
   11 HUNTER ST., BOONAH. Q4310***
*
30 GOSUB830
40 PRINT@43,"DRAWSAVE";
50 PRINT@98,"A LOW-RESOLUTION DR
   AWING PRO-";
60 PRINT@130,"GRAM. SCREENS CAN
   BE CONVERT-";
70 PRINT@162,"ED TO BASIC PROGRA
   MS AND";
80 PRINT@194,"SAVED TO DISK OR T
   APE.";
90 PRINT@258,"IDEAS USED FROM 'F
   OURDRAW' BY";
100 PRINT@290,"J.VAGG AND 'TITLE
   MKR' BY F.":PRINT@322,"SCERBO.
   ...";
110 PRINT@450,"   (any key to c
   ontinue)";
120 EXEC44539
130 GOSUB830
140 PRINT@10,"INSTRUCTIONS";
150 PRINT@66,"USE KEYS W,X,A,D,Q
   ,E,Z AND C":PRINT@98,"TO DRAW
   IN ANY OF 8 DIRECT-";
160 PRINT@130,"IONS AND KEYS 1-8
   FOR DIFFER-":PRINT@162,"RNT CD
   LOURS.";
170 PRINT@226,"PRESS 0 TO ERASE
   AND START":PRINT@258,"AGAIN.";
180 PRINT@322,"PRESS <SPACEBAR>
   TO CREATE A":PRINT@354,"BASIC P
   ROGRAM ON TAPE OR DISK";
190 PRINT@454,"<any key to conti
   nue>";
200 EXEC44539
210 CLS:PRINT:PRINT"YOUR FIRST T
   ASK IS TO THINK UP A TITLE FOR Y
   OUR CREATION...   (NO MORE
   THAN 8 LETTERS)"
220 PRINT:PRINT:INPUT"WHAT IS IT
   ";F$
230 IFF$="R"THENRUN"C2" ELSE CLS
   0
240 K=2
250 A=31:B=32:C=31:D=32
260 W=15:X=15:Y=16:Z=16
270 SET(A,W,K):SET(B,X,K):SET(C,
   Y,K):SET(D,Z,K)
280 I$=INKEY$:IF I$=""THEN 280
290 IF I$="W" THEN W=W-1:X=X-1:Y
   =Y+1:Z=Z+1
300 IF I$="X" THEN W=W+1:X=X+1:Y
   =Y-1:Z=Z-1
310 IF I$="A" THEN A=A-1:B=B+1:C
   =C-1:D=D+1
320 IF I$="D" THEN A=A+1:B=B-1:C
   =C+1:D=D-1
330 IF I$="Q" THEN A=A-1:W=W-1:B
   =B+1:X=X-1:C=C-1:Y=Y+1:D=D+1:Z=Z
   +1
340 IF I$="C" THEN A=A+1:W=W+1:B
   =B-1:X=X+1:C=C+1:Y=Y-1:D=D-1:Z=Z
   -1
350 IF I$="E" THEN A=A+1:W=W-1:B
   =B-1:X=X-1:C=C+1:Y=Y+1:D=D-1:Z=Z
   +1
360 IF I$="Z" THEN A=A-1:W=W+1:B
   =B+1:X=X+1:C=C-1:Y=Y-1:D=D+1:Z=Z
   -1
370 IF I$="1" THEN K=1
380 IF I$="2" THEN K=2
390 IF I$="3" THEN K=3
400 IF I$="4" THEN K=4
410 IF I$="5" THEN K=5
420 IF I$="6" THEN K=6
430 IF I$="7" THEN K=7
440 IF I$="8" THEN K=8
450 IF I$="0" THEN CLS0
460 IF I$=" " THEN GOTO 520
470 IFA<0 THEN A=0:B=63:C=0:D=63
   :SOUND200,1
480 IFA>63 THEN A=63:B=0:C=63:D
   =0:SOUND200,1
490 IFW<0 THEN W=0:X=0:Y=31:Z=31
   :SOUND200,1
500 IF W>31 THEN W=31:X=31:Y=0:Z
   =0:SOUND200,1
510 GOTO270
520 GOSUB530:GOTO570
530 PRINT@480,STRING$(31,32);
540 POKE1535,143
550 PRINT@484,"PREPARE (D)ISK OR
   (TAPE) ":
560 RETURN
570 X$=INKEY$:IFX$="D"THEN 580EL
   SEIFX$="T"THEN590ELSE570
580 DV=1:F$=F$+"/BAS":GOTO600
590 DV=-1
600 PRINT@480," NOW WRITING YOUR
   BASIC PROGRAM";
610 FOR L=1472TO1056STEP-32:ST=0
620 FORM=L TO L+31:RS=PEEK(M):ST
   =ST+RS:NEXTM
630 IF ST=4096THEN NEXTL
640 'OPEN FILE*****
650 OPEN"O",#DV,F$
660 PRINT#DV,"10 CLSO:FORI=1TO";
   L-1024+32;":READ A:";
670 IF SW=1 THEN 690
680 PRINT#DV,"PRINTCHR$(A);:NEXT
   ":GOTO700
690 PRINT#DV,"PRINTCHR$(A+128);:
   NEXT"
700 LN=10:FOR N=1024TO L STEP32
710 LN=LN+10:W$=STR$(LN):QW=LEN(
   W$):W$=RIGHT$(W$,QW-1)+" DATA":P
   RINT#DV,W$;
720 FOR M=N TO N+31:RS=PEEK(M)
730 IF SW=0THEN750
740 RS=RS-128
750 RS$=STR$(RS):QW=LEN(RS$):RS$
   =RIGHT$(RS$,QW-1):IF RS$=""THEN
   RS$=""
760 PRINT#DV,RS$;:IF M<>N+31 THE
   N PRINT#DV,",";
770 NEXTM:PRINT#DV,"":NEXTN
780 PRINT#DV,"1000 GOTO1000"
790 PRINT@480,STRING$(31,32);
800 CLOSE#DV
810 CLS2:PRINT:PRINT"   Y
   OUR PATTERN IS NOW A BASIC PROGR
   AM ON TAPE/DISK"
820 GOTO 820
830 CLS:FORX=1024TO1055:POKEY,15
   9:NEXTX:FORX=1504TO1535:POKEY,15
   9:NEXTX
840 FORY=1056TO1472STEP32:POKEY,
   159:NEXTY:FORY=1087TO1503STEP32:
   POKEY,159:NEXTY
850 RETURN
```



LOW-RES

## ANIMATION

by Johanna Vagg

16K ECB

**T**HIS IS A follow-up to an article which was printed in November 1985 CoCo. I wrote it as LO-RES ANIMATION, also known as VAGG 8. (It was Graham's inverted sense of humour which named a recent article VAGG 6, and also re-named my original article HIRES ANIMATION.)

To those of you who have the Nov 85 magazine, I suggest you get it out. To those who do not have one, I say, "Why not?". Did I hear someone say he didn't have a computer then? Why, I ask you, why, would anyone think that anything worth reading has to have been written AFTER he bought HIS computer?

Buying back issues is a worthwhile exercise. The first things I ordered from Greg after I found a RAINBOW were back issues. If you order a few, and tell Graham I sent you, he may even give you a discount.

Let's get back to animation. I expected to see some great colour cartoons after Nov 1985. Now I think that maybe my DEMO program wasn't impressive enough to inspire the artists. The WORLD32K should have been inspiring. Perhaps it was awe-inspiring.. it looked too complicated.

SKIPPING is submitted not as a great colour cartoon, but as proof that LO-RES animation is possible fairly simply. It consists of only two pictures POKEd to five 'pages', which are then 'flipped'. Many more pages are available.

My kids were involved in JUMP ROPE for HEART. During Education week Year 6 put on a display of skipping routines. This program shows two types of skipping. First I POKEd the two pictures (largely the same) on to the 'ordinary' screen, or page 2. Page 0 takes the first 512 bytes, ie 0 to 511; page 1 takes from 512 to 1023; and page 2, 1024 to 1535.

Use the PRINT@ locations to draw your picture. To POKE on to page 2, POKE to the PRINT@ position + 1024. To POKE to another page, add 512 for each page. To put the whole picture higher on the screen, subtract 32 for each line; to put it lower, add 32 per line. To move sideways, add or subtract 2 or 3.

So in SKIPPING, I POKEd to pages 9 through 13. The girl is placed in four different positions, but only in two different poses. Then the program flips pages 9 and 10 several times, then it flips through pages 10 to 13 inclusive.

## The Listing:

```

0 GOTO10
3 SAVE"ANIMATE:3":END
10 ****JOHANNA VAGG
    ****9 BELAH STREET
    ****FORBES NSW 2871
20 'IF STRANGE THINGS HAPPEN ON
RUNNING, TRY POKE25,6:NEW BEFORE
YOU CLOAD... THAT MEANS YOU'D
BETTER CSAVE BEFORE YOU RUN!!!!
30 'ANIMATE:THIS ONLY TAKES FIVE
LO-RES PAGES. MANY MORE ARE
AVAILABLE. SEE NOVEMBER 1985
COCO...ARTICLE WRONGLY NAMED HI-
RES ANIMATION.
40 CLS2:PRINT@230,"jump rope for
heart";
50 PRINT@392,"HANG ON A TICK";
60 'PAGEFLIP ROUTINE
    THANKS AGAIN TINO
65 'FLIP ROUTINE CAN BE MOVED
    UP 16K FOR 32K MACHINES
70 CLEAR200,16376:FORI=1TO7:READ
B$:POKEI+16376,VAL("&H"+B$):NEXT
I:DEFUSRO=16377:DATA BD,B3,ED,44,
7E,96,0F
80 'BLACKEN THE FIVE PAGES
90 FOR X=4608 TO 7167:POKEX,128:
NEXT
100 PRINT@458,"NOT QUITE";
110 FOR X=1 TO 83
120 READA,B
130 'POKE FIRST PICTURE
140 POKE9*512-64+A,B
150 'ALSO POKE THE THIRD PICTURE
160 POKE11*512-62+A,B
170 'ALSO POKE THE FIFTH PICTURE
180 POKE13*512-62+A,B
190 NEXT
200 PRINT" FINISHED";
210 DATA 144,243,145,243,176,239
,177,239,206,131,207,131,208,135
,209,139,210,131,211,131
220 DATA 236,131,237,140,238,143
,239,143,240,143,241,143,242,143
,243,143
230 DATA 297,236,266,131,267,140
240 DATA 244,140,245,131,278,140
,279,131,312,236,270,132,271,143
,272,143,273,143,274,143,275,136
250 DATA 303,183,304,191,305,191
,306,187,334,183,335,191,336,191
,337,191,338,191,339,187,365,181
,366,191,367,191,368,191,369,191
,370,191,371,191,372,186,399,229
,400,234,401,229,402,234
260 DATA 431,229,432,234,433,229
,434,234,463,199,464,203,465,199
,466,203
270 DATA 296,149,329,154,361,149
,394,153,427,153,460,153,493,153
,494,147,495,147,496,147,497,147
,498,147,498,147,499,147,500,150
280 DATA 469,150,438,150,407,150
,376,154,344,149,313,154
290 FOR X=1 TO 78
300 READA,B
310 'POKE SECOND PICTURE
320 POKE10*512+32+A,B
330 'AND THE FOURTH
340 POKE12*512+36+A,B
350 NEXT
360 DATA 47,147,48,147,49,147,50
,147,77,147,78,156,83,156,84,147
,108,150,117,153
370 DATA 139,150,144,243,145,243
,150,153,170,150,176,239,177,239
,183,153,201,149,206,131,207,131
,208,135,209,139,210,131,211,131
,216,154
380 DATA 233,228,234,140,235,140
,236,140,237,140,238,143,239,143
,240,143,241,143,242,143,243,143
390 DATA 244,140,245,140,246,140
,247,140,248,232,270,132,271,143
,272,143,273,143,274,143,275,136
400 DATA 303,183,304,191,305,191
,306,187,334,183,335,191,336,191
,337,191,338,191,339,187,365,181
,366,191,367,191,368,191,369,191
,370,191,371,191,372,186,399,229
,400,234,401,229,402,234
410 DATA 431,229,432,234,433,229
,434,234,463,199,464,203,465,199
,466,203
420 'FLIP THE FIRST AND SECOND
    PICTURES (PAGES 9 AND 10)
430 TM=200
440 FORK=4608 TO 5120 STEP512:A=
    USRO(K)
450 FORT=1 TO TM:NEXT
460 NEXT
470 TM=TM-10
480 IF TM<50 THEN 510
490 GOTO440
500 'FLIP PAGES 10 THROUGH 13
    (2ND, 3RD, 4TH AND 5TH PICS)
510 TM=180
520 FORK=5120 TO 6656 STEP512:A=
    USRO(K)
530 FOR T=1 TO TM:NEXT
540 NEXT
570 GOTO520
580 REM ONCE THE PICTURES HAVE
    BEEN POKED YOU NEED ONLY RUN THE
    PAGE FLIP SECTION TO SEE THE
    SKIPPING AGAIN.

```

# ASPECTS OF BASIC

by George McLintock  
32K ECB

**W**ITH PARTICULAR reference to altering Extended Basic programs to run with Disk Basic.

## PRINTERS - AND USING THE RS-232 PORT.

The CoCo Basic ROM routine that outputs a character to the printer will 'hang' if you attempt to PRINT#-2, without a printer correctly attached and turned on. You can recover with a reset, but to make the program work, you have to remove the code, or, if you want the signal to come out of the RS-232 port, you have to apply an external voltage to the data input line.

You can achieve the same effect as an external voltage on the data input line with the following pokes.

POKE 65315,48: POKE 65314,249: POKE 65315,52:  
POKE 65314,0

These alter the PIA to generate the equivalent of a printer ready signal internally. The ROM routine will send the characters, and they will be transmitted on the data output line in the RS-232 port. Even if you don't have a printer connected, the program will still work as if you had.

## POKE 359,13.

This is an abomination for all disk users, and it is unfortunate that it was ever published in this form. POKE 359,57 has the same effect, and is at least safe to use with Disk Basic. This POKE allows you to retain an orange screen (set up with other POKE's), instead of the normal green one. It also eliminates some of the additional functions provided by Extended/Disk Basic.

The POKE itself changes one of the RAM vectors included in Basic. POKE 359,13 will work with Extended Basic only because the following addresses in the JMP table just happen to correspond to harmless 6809 op codes, until it reaches an RIS instruction. The equivalent addresses for Disk Basic are not so benign, and this poke will send it off into limbo. You have to turn the machine off and on again to recover from it.

If you use POKE 359,57 you achieve the same effect. The RIS occurs immediately and will work with all BASIC's. A problem with using this poke is that it excludes some of the additional functions provided with Extended/Disk BASIC (Which is the function of the RAM vectors to provide). I have not followed through to find out what functions are eliminated by this poke, (I prefer the green screen myself), but they would be associated in some way with the output of a character to a device.

If you are converting a program which uses this poke, then it seems reasonable to assume that the additional functions are not required for it. (For tape files anyway). Hence you can probably replace POKE 359,13 with POKE 359,57. However, if you use it

on a regular basis, (or with disk files), and find that some functions don't appear to work correctly, I suggest you eliminate it. A POKE 359,&H7E will restore the vector to normal.

## MEMORY SPACE

Disk Basic normally requires 2048 bytes of low memory more than Extended Basic, so that there is less memory to run a program in. However, this is most unlikely to ever prevent a Basic program being converted to Disk. Even if the program does not operate normally when loaded, there are a number of areas of adjustment that can be made without having to know the basic logic of the program.

## REMOVE AND COMPRESS

These are two machine language utilities which have been submitted previously. They both reduce the amount of memory required to hold a BASIC program. If they are used, the memory saved may be all that is required for the program to operate normally.

## PCLEAR 0

The code to do a PCLEAR 0 with Extended BASIC is POKE 25,6: NEW. To achieve the same effect with Disk BASIC use POKE 25,14: POKE &H0E00,0: NEW.

This code changes the high order byte of the address for the start of the Basic program. The low order byte is normally 1 in both cases. For basic to operate correctly, the byte immediately below this address must be zero. With Extended BASIC the byte at &H600 is always zero, but with Disk BASIC &HE00 may not be. Hence the requirement for the extra poke of zero to this address.

## FILES 0 or 1

Disk BASIC starts up with a FILES 2. Each file buffer requires 256 bytes. If the program does not require any disk data files then an extra 512 bytes can be obtained with a FILES 0 command.

Extended BASIC can only have one file open at a time, so that even if you convert a tape data file to disk, you will only require a FILES 1 command. This will release an extra 256 bytes of memory for the program.

Note that if you use both PCLEAR 0 and FILES, the PCLEAR should be done first. If you do FILES first, you have to alter the values in the POKE's for PCLEAR 0 to suit. eg after a FILES 0, the PCLEAR 0 requires POKE &H19,&HC: POKE &H0C00,0: NEW.

## CLEAR 'number'

A CLEAR 8000 instruction will reserve 8000 bytes of memory for string storage space. If used, this is normally set to a value greater than the minimum actually required. With string operations, the more space provided the less often garbage collection will be required. Alternatively, string space might

## PROGRAMS

be calculated to allow for the maximum possible size of all strings. This maximum is most unlikely to ever occur. So that when a large area is cleared for string space, it can normally be reduced without any real problem.

With PCLEAR 0 and FILES 1, Disk BASIC occupies around 1800 bytes more than Extended BASIC. If a large CLEAR statement is reduced by 1800 then the program will have the same 'other' memory available with Disk BASIC as it would for Extended BASIC. If however, you do get an OS (out of string space) error, then you will need to examine some possible changes to the logic of the program.

### CHANGING PROGRAM LOGIC.

Given the options already outlined, and the small amount of memory difference involved, it is most unlikely that you will ever need to get into the detailed program logic to get a BASIC program to run with disks. A possible exception is a program with very large numeric arrays and limited use of strings. This type of program could possibly provide for holding a large number of transactions in memory at once. If so, then changes to the DIM statement may be all that is required to make it fit.

For example, if say 100 transactions are allowed for, then the DIM statement might take the form

```
DIM A(100),B(30,100),C(100)
```

This could be reduced to a maximum of 90 transactions by changing to

```
DIM A(90),B(30,90),C(90)
```

which would save 1600 bytes of memory.

### CHANGING DATA FILES FROM TAPE TO DISK.

This operation is relatively simple. Extended BASIC can have only one data file open at a time, and it's file number is -1. To alter this to a Disk file, change all -1's to 1 in the OPEN, PRINT, INPUT and CLOSE statements. (And delete any prompts for cassette operations).

### FINDING THE LINE NUMBER'S TO ALTER.

If you obtain a copy of the BASIC program you want to alter on tape (eg CoCo Oz tape), then you have to find the relevant line numbers to be altered before you can change them. One way is to LLIST the program and work through the listing.

It is also possible to write a BASIC program to identify the lines for you. With disks, such a program could use line numbers above say 55000 and be merged at the end of the program to be altered. It can then be executed by a RUN 55000.

I have submitted another article, 'Some Aspects of Basic', which explains how Basic programs are actually stored in memory. Using that information, the following code will find all line numbers containing a particular token. It is only an outline of the logic required, more code is required to make it usable.

```
10 T=&Hxx 'TOKEN TO FIND
20 R1=&H82: R2=&H83 'REM TOKENS
30 A=PEEK(25)*256 + PEEK(26) 'START OF PROGRAM
40 B=PEEK(A)*256 + PEEK(A+1) 'ADDRESS NEXT LINE
50 IF B= THEN STOP 'END OF PROGRAM
60 C=PEEK(A+2)*256 + PEEK(A+3) 'THIS LINE NUMBER
65 X=A+4 'START TOKENISED LINE
70 Y=PEEK(X) 'NEXT BYTE
80 IF Y=T THEN 200 'FOUND TOKEN
90 IF Y=0 OR Y=R1 OR Y=R2 THEN 150 'END OF LINE
100 X=X+1: GOTO 70 'CONTINUE SEARCH
150 A=B: GOTO 40 'DO NEXT LINE
200 'THE TOKEN EXISTS IN LINE No C
210 IF PEEK(X-1)=255 THEN 90 'IS 2 BYTE TOKEN,
    IGNORE IT
300 GOTO 70 'CONTINUE SEARCH AFTER NOTING LINE
    NUMBER
```

Most of the tokens you may wish to search for can also exist as the second byte of a two byte token. ie they follow a Hex FF. Line 210 is required to avoid these being taken as the one you are searching for.

If you remove blanks from the program before this (eg with REMOVE), then followline line 210 you can extend the search for a specific usage of the token. eg if the token is POKE you can then test if the next three bytes are equal to "359"

Some of the tokens you may wish to search for are

Basic Word	Token (Hex)
PRINT	87
INPUT	89
DIM	8C
POKE	92
CLEAR	95
OPEN	99
CLOSE	9A

### The Listing:

```
0 'LISTING 1
1 'BASIC PROGRAM TO CREATE DATA
  STATEMENTS FOR REMOVE
  BY G.T.MCLINTOCK
2 GOTO10
3 SAVE"LISTING1:3":END
4 END
10 LN=1000:OPEN"C",#1,"MLREMEV/B
  AS"
20 FOR X=32000 TO 32168 STEP 25
30 A$=MID$(STR$(LN),2)+" DATA ":
  B=0
40 IF X<32149 THEN N=25 ELSE N=1
  8
50 FOR Y=0 TO N-1
60 B=B+PEEK(X+Y)
70 A$=A$+HEX$(PEEK(X+Y))+","
80 NEXT Y
90 A$=A$+HEX$(B):LN=LN+10
100 PRINTA$
110 PRINT#1,A$
130 NEXT X
140 CLOSE:STOP
```

### The Listing:

```
0 'LISTING 2
1 'BASIC PROGRAM FOR REMOVE UTIL
  ITY BY G.T.MCLINTOCK
2 GOTO10
3 SAVE"LISTING2:3":END
10 '
15 CLEAR 500,32000
20 M=32000
30 LN=1000: Z=M
40 FOR X=0 TO 168 STEP 25
50 B=0:IF X < 149 THEN N=25 ELSE
  N=18
60 FOR Y=0 TO N-1:READ C$
70 C=VAL("&H"+C$):POKE Z,C
80 B=B+C: Z=Z+1
90 NEXT Y: READ C$
100 IF B <> VAL("&H"+C$) THEN PR
  INT "ERROR IN LINE NO";LN:STOP
110 LN=LN+10:NEXT X
120 PRINT "REMOVE NOW AVAILABLE
  IN MEMORY FROM";M;" TO";M+168-1
999 'LINES 1000 ON ARE DATA LINE
  S CREATED BY LISTING 2
```

# SAMURI

by Tom Lehane

16K ECB

GRAPHICS

Here is another short graphics program that draws a Japanese Samuri warrior.



The Listing:

```

0 GOTO10
1 'PIX 2 BY TOM LEHANE
2 SAVE"PIX2":END
10 PMODE4:PCLS:SCREEN1,1
20 FORZ=1TO 129
30 READ A,B,C,D
40 LINE(A,B)-(C,D),PSET
50 NEXT
60 GOTO 60
70 DATA 134, 70, 137, 68
80 DATA 137, 68, 143, 74
90 DATA 143, 74, 136, 74
100 DATA 136, 74, 133, 71
110 DATA 129, 55, 132, 51
120 DATA 132, 51, 146, 59
130 DATA 146, 59, 129, 56
140 DATA 151, 57, 159, 49
150 DATA 159, 49, 161, 52
160 DATA 161, 52, 151, 57
170 DATA 151, 66, 151, 71
180 DATA 151, 71, 158, 81
190 DATA 158, 81, 160, 89
200 DATA 160, 89, 161, 95
210 DATA 161, 95, 159, 97
220 DATA 159, 97, 154, 95
230 DATA 154, 94, 149, 94
240 DATA 148, 90, 146, 92
250 DATA 146, 92, 145, 95
260 DATA 145, 95, 147, 97
270 DATA 147, 97, 149, 96
280 DATA 139, 111, 146, 105
290 DATA 146, 105, 151, 103
300 DATA 151, 103, 158, 102
310 DATA 158, 102, 164, 103
320 DATA 139, 112, 146, 109
330 DATA 146, 109, 150, 107
340 DATA 150, 107, 156, 105
350 DATA 156, 105, 159, 105
360 DATA 159, 105, 163, 105
370 DATA 163, 105, 164, 103
380 DATA 138, 118, 134, 117
390 DATA 134, 117, 131, 114
400 DATA 131, 114, 131, 109
410 DATA 110, 31, 110, 113
420 DATA 110, 113, 102, 117
430 DATA 102, 117, 104, 112
440 DATA 104, 112, 96, 113
450 DATA 96, 113, 99, 106

```

```

460 DATA 99, 106, 92, 108
470 DATA 92, 108, 97, 103
480 DATA 97, 103, 91, 103
490 DATA 91, 103, 98, 99
500 DATA 98, 99, 90, 100
510 DATA 90, 100, 96, 93
520 DATA 96, 93, 90, 84
530 DATA 90, 84, 90, 77
540 DATA 90, 77, 86, 62
550 DATA 86, 62, 85, 46
560 DATA 85, 46, 72, 43
570 DATA 72, 43, 75, 41
580 DATA 75, 41, 58, 41
590 DATA 58, 41, 69, 37
600 DATA 69, 37, 54, 37
610 DATA 54, 37, 61, 33
620 DATA 61, 33, 55, 31
630 DATA 55, 31, 60, 30
640 DATA 60, 30, 56, 25
650 DATA 56, 25, 62, 25
660 DATA 62, 25, 57, 20
670 DATA 57, 20, 100, 22
680 DATA 100, 22, 126, 21
690 DATA 126, 21, 141, 25
700 DATA 141, 25, 149, 23
710 DATA 149, 23, 149, 26
720 DATA 149, 26, 156, 23
730 DATA 156, 23, 156, 26
740 DATA 156, 26, 167, 24
750 DATA 167, 24, 164, 28
760 DATA 164, 28, 175, 27
770 DATA 175, 27, 171, 30
780 DATA 171, 30, 183, 33
790 DATA 183, 33, 176, 35
800 DATA 176, 35, 187, 38
810 DATA 187, 38, 174, 38
820 DATA 174, 38, 165, 40
830 DATA 165, 40, 158, 44
840 DATA 158, 44, 152, 37
850 DATA 152, 37, 148, 41
860 DATA 148, 41, 142, 41
870 DATA 142, 41, 131, 38
880 DATA 131, 38, 122, 34
890 DATA 122, 34, 111, 30
900 DATA 158, 45, 160, 48
910 DATA 160, 48, 161, 54
920 DATA 161, 54, 162, 62
930 DATA 162, 62, 162, 67

```

```

940 DATA 162, 67, 159, 67
950 DATA 159, 67, 155, 70
960 DATA 155, 70, 160, 72
970 DATA 160, 72, 163, 71
980 DATA 163, 71, 163, 68
990 DATA 164, 72, 170, 90
1000 DATA 170, 90, 169, 102
1010 DATA 169, 102, 167, 112
1020 DATA 167, 112, 168, 121
1030 DATA 168, 121, 162, 126
1040 DATA 162, 126, 154, 130
1050 DATA 154, 130, 141, 131
1060 DATA 141, 131, 120, 124
1070 DATA 120, 124, 79, 151
1080 DATA 79, 151, 82, 125
1090 DATA 82, 125, 89, 103
1100 DATA 99, 84, 109, 84
1110 DATA 109, 84, 108, 70
1120 DATA 108, 70, 102, 61
1130 DATA 102, 61, 98, 61
1140 DATA 98, 61, 94, 63
1150 DATA 94, 63, 93, 75
1160 DATA 93, 75, 98, 84
1170 DATA 102, 80, 97, 74
1180 DATA 97, 74, 97, 68
1190 DATA 97, 68, 99, 65
1200 DATA 99, 65, 103, 68
1210 DATA 41, 132, 47, 110
1220 DATA 47, 110, 70, 96
1230 DATA 70, 96, 90, 89
1240 DATA 76, 95, 73, 114
1250 DATA 81, 97, 68, 162
1260 DATA 76, 166, 104, 142
1270 DATA 104, 142, 127, 130
1280 DATA 155, 133, 186, 143
1290 DATA 186, 143, 194, 156
1300 DATA 194, 156, 196, 187
1310 DATA 210, 159, 213, 159
1320 DATA 213, 159, 213, 165
1330 DATA 216, 159, 214, 159
1340 DATA 217, 167, 217, 173
1350 DATA 217, 173, 221, 173

```

☪☪☪

# ZARD

by Scott Binning

16KCB



I WISH TO send this in as an effort in doing text screen games. About the game. You have been sent from earth to help the Planet of Doom where the evil Zard has taken over...

There is only one way I know of to win, but if anyone can find another way then it would be kind if that person could write me and tell me how.

My address is:  
Scott Binning  
177 Ewing Rd  
Woodridge Qld 4114

Good luck.

## The Listing:

```

1 GOTO 100
2 '***** ZARD *****
   ***** SCOTT BINNING *****
3 SAVE"ZARD:3":END
10 REM'THE MIGHTY ZARD SAYS HE I
S MORE POWERFUL THAN MARTHA AND
MORE SKILLED THAN COCO THE COMP
UTER IT SELF AND THE SAYS HE'LL
ALL ALWAYS BE MORE POWERFUL.
20 CSAVE"ZARD":END
30 REM 'THIS PROGRAM IS BY SCOTT
BINNING ONE OF THE COLOUR COMPU
TER FANS!!
100 CLS
110 INPUT"WHAT IS YOUR NAME SIR"
;AS
120 PRINT"WELCOME TO THE LAND OF
DOOM.. YOU MUST DEFEAT THE EV
IL ZARD AND HIS MEN AND COLLEC
T THE PRIZE OR OTHER WISE IT
IS DOOM FOR THE SIDE OF GOOD."
130 PRINT"THE PRIZE IS FREEDOM F
OR THE LAND OF DOOM AND YOU WILL
BE- COME RULER.I HEAR THEM COM
ING GO GET YOUR DAGGER AND GO QU
ICK...BUY THE WAY IF YOU MAKE IT
THROUGH THE THREE GROUP THEN YO
U'LL GET THE LOVEY PRINCESS."
140 PRINT:PRINT" GOOD LUCK SIR "
AS
150 FOR C=1 TO 3000:NEXT C
160 FOR X=1 TO 3
170 IF X=1 THEN CLS:PRINT"THE FIR
ST GROUP IS RED GROUP AND LOOK
FARLY SIMPLE TO KILL":GOTO 240
180 IF X=2 THEN PRINT"THE SECOND
GROUP ARE GOLD GROUP AND ARE TR
AINED TO KILL BE CAREFUL.":GOTO
240
190 IF X=3 THEN PRINT"YOU GETTIN
G BETTER AT THIS SAYS THE MIGHTY
ZARD BUT THERE IS A BREAKING P
OINT FOR ALL THIS IS BRONZE GRO
UP AND ARE JUST ABOUT IMPOSSIBLE
.":GOTO 240
200 NEXT X:IF X>3 THEN GOTO 520
ELSE GOTO 160
210 PRINT"THE MIGHTY ZARDS FORCE

```

```

S ARE BEING TO WEAKEN OUT AN
D SO IS THE MIGHTY ZARDS PATIE
NCE WITH YOU ...":GOTO 240
230 PRINT"YOU ARE UNBEAT ABLE IS
THERE AND IS ANY THING THAT CAN
STOP YOU AT ALL?. THIS IS BLUE
THEY ARE FEARD THROUGH OUT THE
GALAX AND ARE JUST ABOUT UNBEAT
ABLE.":GOTO 240
240 PRINT:PRINT"AT WHICH POINT S
HOULD YOU KILL THEM"
250 PRINT"1-IN THE BACK OF THE H
EAD 2-IN THE FRONT OF THE
HEAD 3-IN THE GUT'S
4-OR CUT THEM UP FOR T
HE ANIMALS"
260 INPUT"INPUT WHICH POINT";Q
270 D=INT(RND(0)*4)+1
280 ON D GOTO 290,300,310,320
290 ON Q GOTO 330,480,490,500,51
0
300 ON Q GOTO 430,360,350
310 ON Q GOTO 340,460,470,360,45
0,460
320 ON D GOTO 430,450,460,470,
330 PRINT"THAT PATROL HAS ATTACK
ED AND RUNS IN DEFEAT NEVER TO B
E SEEN AGIAN!!!":FOR GH=1 TO
2000:NEXT GH:GOTO 200
340 PRINT"THAT GROUP JUST ABOUT
KILLED YOU (FEW) THAT WAS CLOSE.
WATCH WHERE YOU GO OR THEY'LL K
ILL YOU":FOR S=1 TO 2000:NEXT:GOT
O 200
350 PRINT"YOU LOSE YOUR DAGGER A
ND RUN FOR YOUR LIFE, YOU HIDE AN
D JUST MISS GETTING SEEN THE
VILLAGES ARE BEING TO HATE YOU"
:FOR A=1 TO 2000:NEXT:GOTO 200
360 PRINT"YOU ARE ABLE TO KILL 1
,2,3,4 YOU ARE DEAD THE FORTH MA
N KILLED YOU WITH HIS LAZERGUN"
:FOR M=1 TO 2000:NEXT:GOTO 370
370 PRINT"THE VILLAGES HATE YOU
AND SING OUT (HISS) (BOOO) AS
THEY DRAG YOUR BODY THROUGH THE
STREETS THE PEOPLE LIVE UNDER
THE RULE OF ZARD AND HIS EVEIL

```

```

MEN."
380 PRINT"ANOTHER GAME (Y/N)"
390 Z$=INKEY$:IF Z$="Y"THEN GOTO
100
400 IF Z$="N"THEN GOTO 420
410 GOTO 390
420 PRINT"COME AGIAN SOON":END
430 PRINT"THEY TAKE YOU PRISONE
R .YOU ARE HUNG AND YOUR BODY IS
TAKE TO THE VILLAGES":GOTO 370
450 PRINT"A MAN FROM BEHIND SHOU
T'S FREEZE.YOU TURN AND SHOOT'S
YOU WITH HIS LAZER GUN.":GOTO 3
70
460 PRINT"ONE OF ZARDS MEN COME
FROM BEHIND AND KILLS YOU "
:GOTO 370
470 PRINT"ZARDS SAYS 'FOOLS' I W
ILL KILL HIM MY SELF .YOU DO NO
T SEE HIM COMING AND KILLS YOU W
ITH HIS MAGIC.":GOTO 370
480 PRINT"YOU KILL ONE MAN BUT A
S YOU LOOK AROUND ANOTHER MAN PI
CKES UP HIS LAZER GUN AND START
SHOOTING HE KILLS THEM ALL YOU
ARE SAVED":GOTO 200
490 PRINT"YOU HAVE BLINDED A MAN
HE STARTS SHOOTING AROUND AND K
ILLS HIS FRIENDS YOU WERE JUST
SAVED":GOTO 200
500 PRINT"YOU ARE ABLE TO CAPTUR
E THEM.YOU FEED THEM TO THE ANIM
ALS.":FOR Z=1 TO 2000:NEXT Z:GOT
O 200
510 PRINT"DIDLE BUGS COME AND KI
LL THE MEN YOU ARE SAVED.":FOR N
M=1 TO 2000:NEXT NM:GOTO 200
520 CLS4:PRINT@167,"YOU HAVE WON
THE PRINCESS AND THE GAME
";
530 SOUND 11,5:SOUND 100,5:SOUND
11,5:SOUND 100,5:SOUND 11,5:SOU
ND 100,5
540 GOTO 540

```

☺☺

# Devilish Tricks

by Bob Delbourgo

16K

**B**RIDGE is a game for pros while 'WHIST' is for amateurs who cannot be bothered to agonise every time they make a bid. Here is a version of Whist (named after the devil. (I don't know why but that's the way I've always heard it called).

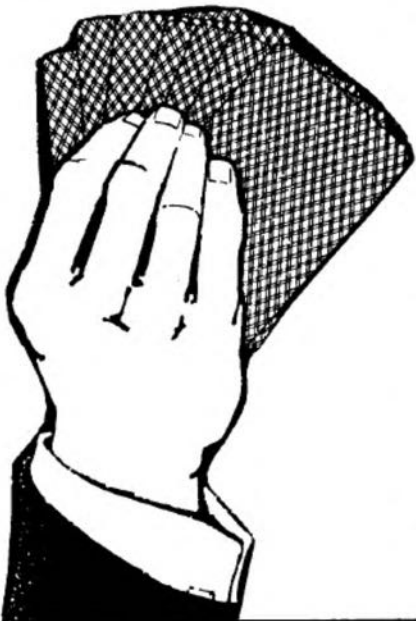
You are matched against the computer in this two player version - there wasn't any point in allowing more players as they would get to see one another's hands which would ruin the game.

The instructions for play are given in lines 25 to 37 so I will not repeat them. Beware of CoCo, it plays a decent hand.

Indeed that was the hard part of the programming, namely lines 2000 onwards.

If you can figure out it's strategy (which I shall not give away) then you may even be able to improve its thinking.

The program fits comfortably within 16K with the initial PCLEAR. I know you will have fun with this game if you are at all lured by the cards.



## The Listing:

```

1 'WHIST bob delbourgo, APR 1986
2 GOTO10
3 FORI=1TO3:CSAVE"WHIST":NEXTI
4 END
10 SCREEN0,0:GOTO60000
20 CLSO:PRINT@137,"devil's WHIS
T";PRINT@201,"BOB DELBOURGO";:
PRINT@361,"DIRECTIONS Y/N";
21 IS=INKEY$:IFI$="Y"THEN25ELSEI
FI$="N"THEN100ELSE21
25 CLSO:PRINT@10,"devil's whist"
;:PRINT@64,"WHIST IS THE POOR MA
N'S VERSION OF CONTRACT BRIDGE.
DEVIL WHIST IS AN ABSORBING VARI
ATION OF IT."
26 PRINT"YOU PLAY AGAINST COCO A
ND AT THESTART OF THE GAME CAN C
HOOSE HOWMANY ROUNDS TO PLAY. TH
E NUMBER OF ROUNDS EQUALS THE NU
MBER OF CARDS DEALT AT THE BEGI
NNING."
27 PRINT"CARDS COME IN FOUR SUIT
S: "CHR$(159);CHR$(175);CHR$(143
);CHR$(191):PRINT"AND THE TRUMP
SUIT IS CHOSEN AT RANDOM BY THE
COMPUTER AT THE START OF EVERY
ROUND."
28 GOSUB1800
30 CLS:PRINT"YOU MUST BID FOR TH
E NUMBER OF TRICKS THAT YOU HOP
E TO GET AT THE START OF EACH R
OUND. COCO LIKEWISE. IF YOU AC
HIEVE YOUR BID, YOU RECEIVE YO
UR BID # PLUSA BONUS OF 10 POINT
S. THE SAME APPLIES TO COCO."
31 PRINT:PRINT"IF YOU UNDERACHIE
VE, YOU SCORE 0. IF YOU OVERACHIE
VE YOU SCORE THENUMBER OF TRICKS
YOU'VE MADE.":PRINT"THE COMPUTER
DOES NOT KNOW YOUR HAND AND PLA
YS HONESTLY. YOU TOOMUST FOLLOW
A SUIT IF YOU HAVE ACARD IN A MA
TCHING SUIT!!!"
32 GOSUB1800
35 CLS:PRINT"IN THE NEXT ROUND,
ONE LESS CARDIS DEALT TO YOU AND
COCO. THUS BIDDING GETS PROGRE
SSIVELY MORE TRICKY!! IN THE FIN
AL ROUND IT'SANYONE'S GUESS WHO
WILL WIN.":PRINT
36 PRINT"important point: WHEN B
IDDING, THE TOTAL NUMBER OF TRI
CKS BID BY YOU AND COCO CANNOT
EQUAL THE TOTAL NUMBER OF CAR
DS DEALT. THIS IS TO ENSURE THAT
ONE OF YOU WILL BE DISAPPOINTE
D!!!!"
37 PRINT"THE PERSON TO BID FIRST
IS THE PERSON WHO WON THE LAST
TRICK OFTHE LAST ROUND. good lu
ck now.."
38 GOSUB1800
99 'start of game proper
100 PCLEAR1:POKE359,57:SCREEN0,1
:CLS: CLEAR500:TW$="L25T25505CGEC
GECGECGECGE":TL$="L25T25501BBBAA
BBBBAAA":TB$="T255L2501CO+CO+CO+
CO+CO-CO-CO-CO-C":CS$="":R=RND(-T
IMER):FORI=2TO14:FORJ=143TO191ST
EP16:CS=CS+CHR$(48+1)+CHR$(J):NE
XTJ,1:TT=0
105 RD=0:SC(1)=0:SC(2)=0:CLS:PRI
NT@10,"devil's whist":PRINT:INPU
T"HOW MANY ROUNDS (8 MIN. 16 MAX
.)TO PLAY";NN=NN+INT(NN):IFNN<80
RNN>16THENSOUND1,1:GOTO105
110 N=NN:PRINT"SHUFFLING AND DEA
LING THE CARDS.PLEASE WAIT...":G
OSUB1000:GOSUB1050:IFTT<>0THEN12
0
115 TT=1:INPUT"DO YOU WISH TO ST
ART? (Y/N)";Q$:IFQ$="Y"THENS=1E
LSESS=2
120 RD=RD+1:T$=MID$(H$,2,1):H$="
":N(1)=0:N(2)=0:PRINT"SORTING TH
E HANDS. PLEASE WAIT...":GOSUB110
0:GOSUB1200:GOSUB1250
124 'bidding
125 S=SS:IFS=1THENPRINT@166,"YOU
R TRICKS BID ";:INPUTT(1):PRINT@
186,STRING$(6,223);:PRINT@294,"T
HINKING .....":GOSUB1150:
IFT(1)+T(2)=N THENIFT(2)=0THENT(
2)=1ELSESET(2)=T(2)-1
130 IFS=1THENPLAYTBS:PRINT@294,"
COCO TRICKS BID ="T(2);
135 IFS=2THENPRINT@294,"THINKING
.....":GOSUB1150:PRINT@2
94,"COCO TRICKS BID ="T(2);
140 IFS=2THENPRINT@166,"YOUR TRI
CKS BID ";:INPUTT(1):PRINT@186,S
TRING$(6,223);:IFT(1)+T(2)=N THE
NPRINT@166,"NUMBER NOT ALLOWED..
":PRINT@186,STRING$(6,223);:SOUN
D1,10:GOTO140
150 PRINT@481,"pick card via cur
sor AND enter";:NC=1:IFS=2THEN30
0
159 'choose your card
160 PRINT@96+2*NC-1,CHR$(195);:F
ORDL=1TO20:NEXTDL:PRINT@96+2*NC-
1,CHR$(32);:FORDL=1TO10:NEXTDL:I
S=INKEY$:IFI$="Y"THEN160
165 IFIS=CHR$(13)THEN200
170 IFIS=CHR$(9)THENNC=NC+1:IFNC
>N THENNC=N:SOUND1,5
175 IFIS=CHR$(8)THENNC=NC-1:IFNC
=0THENNC=1:SOUND1,5
180 GOTO160
199 'you play first
200 PRINT@96+2*NC-1,CHR$(195);:C
C$(1)=MID$(H$(1),2*NC-1,2)
205 IFN(2)<>T(2)ANDS=2THENGOSUB2
000
210 IFN(2)<>T(2)ANDS=1THENGOSUB2
200
215 IFN(2)=T(2)ANDS=2THENGOSUB21
00
220 IFN(2)=T(2)ANDS=1THENGOSUB23
00
225 IFS=2THEN235ELSEGOSUB1700
230 PRINT@416+2*N-1,J$;:PRINT@44
8+2*N-1,RIGHT$(CC$(2),1);:PLAY"T
25L25EDCFEDCFEDCF"
235 GOSUB1500:PRINT@343,N(2);:PR
INT@215,N(1);:H$(1)=LEFT$(H$(1),
2*NC-2)+MID$(H$(1),2*NC+1):H$(2)
=LEFT$(H$(2),2*K-2)+MID$(H$(2),2
*K+1)
237 IFS=2THENPLAYTTL$ELSEPLAYTV$
238 N=N-1:IFN=0THEN500
240 PRINT@358,"any key - next tr
ick";:FORDL=1TO10:NEXTDL:PRINT@3
58," ";:IFINK
EY$="Y"THEN240
250 GOSUB1250:NC=1:IFS=2THEN300E
LSE160
300 IFN(2)<>T(2)THENGOSUB2000ELS
EGOSUB2100

```

# PROGRAMS

```

305 GOSUB1700
310 PRINT@416+2*N-1,J$;:PRINT@44
8+2*N-1,RIGHT$(CC$(2),1);:PLAY"
25L25EDCFEDCFEDCF":GOTO160
500 GOSUB2500:NN=NN-1:N=NN:IFN=0
THEN600
505 CLS:PRINT"end of round"RD:PR
INT:SS=S
510 PRINT"YOUR SCORE ="SC(1):PRI
NT"COCO SCORE ="SC(2):PRINT
515 GOTO110
600 CLS:PRINT@10,"devil's whist"
:PRINT:FORK=1TO5:PLAYT$:PLAYTL$
:NEXTK:PRINT" YOUR FINAL SCORE
="SC(1):PRINT" COCO FINAL SCORE
="SC(2):PRINT
505 PRINT" PRESS <ENTER> FOR A
NEW GAME"
610 I$=INKEY$:IF I$="" THEN610
615 IF I$=CHR$(13) THENRUN
620 END
999 'shuffle card pack
1000 POKE65495,0:FORI=1TO100
1005 R=RND(52):S=RND(52):IFR=S T
HEN1005
1010 R$=MID$(C$,2*R-1,2):S$=MID$
(C$,2*S-1,2):MID$(C$,2*R-1,2)=S$
:MID$(C$,2*S-1,2)=R$
1015 NEXTI
1020 H$=C$:POKE65494,0:RETURN
1049 'deal hands
1050 H$(1)=LEFT$(H$,2*N):H$(2)=M
ID$(H$,2*N+1,2*N):H$(3)=MID$(H$,4*N
+1):RETURN
1099 'sort hands in descending o
rder
1100 POKE65495,0:FORJ=1TON:FORI=
1TON-1:FORK=1TO2:I$=MID$(H$(K),2
*I,1):I1$=MID$(H$(K),2*I+2,1):J$
=MID$(H$(K),2*I-1,1):JJ$=MID$(H$
(K),2*I+1,1)
1105 IF I1$>I$OR(I1$=I$ANDJJ$>J$)
THENMID$(H$(K),2*I-1,2)=JJ$+I1$
:MID$(H$(K),2*I+1,2)=J$+I$
1110 NEXTK,I,J:POKE65494,0:RETUR
N
1149 'determine coco bid
1150 GOSUB1180:T(2)=0:M=0:FORI=1
TON:IFMID$(H$(2),2*I-1,1)>":THE
NT(2)=T(2)+1:M=1
1152 IF I=1 THEN1165
1155 IFMID$(H$(2),2*I,1)=MID$(H$
(2),2*I-2,1)AND(M=1ORN=<8)ANDMID
$(H$(2),2*I-1,1)>"7"ANDMID$(H$(2
),2*I-1,1)<":THENT(2)=T(2)+1
1160 IFMID$(H$(2),2*I-1,1)<"8"TH
ENM=0
1165 IFN>N/4+1ANDMID$(H$(2),2*I
,1)=T$ANDMID$(H$(2),2*I-1,1)<"8"
ANDMID$(H$(2),2*I-1,1)>"4"THENT(
2)=T(2)+1
1170 NEXTI:RETURN
1179 'find number of trumps in c
oco hand
1180 NT=0:FORJ=1TON:IFMID$(H$(2)
,2*J,1)=T$THENNT=NT+1
1185 NEXTJ:RETURN
1199 'draw board
1200 CLS:PRINT@160,STRING$(64,22
3);:PRINT@288,STRING$(64,239);:P
RINT@224,"ROUND ":RD;:PRINT@256
,"TRUMPS: ";T$:PRINT@240,"YOUR
TOTAL ="SC(1);:PRINT@272,"COCO
TOTAL ="SC(2);
1205 PRINT@326,"COCO TRICKS WON
="N(1);:PRINT@198,"YOUR TRICKS
WON ="N(2);:RETURN
1249 'draw cards on board and de
code
1250 PRINT@32,STRING$(96,32);:PR
INT@416,STRING$(64,32);:FORI=1TO
N:PRINT@64+2*I-1,MID$(H$(1),2*I,
1);
1255 I$=MID$(H$(1),2*I-1,1):IF I$
="":THENJ$="T"ELSEIF I$="":THENJ$
="J"ELSEIF I$="<" THENJ$="Q"ELSEIF
I$="=" THENJ$="K"ELSEIF I$=">" THEN
J$="A"ELSEJ$=I$
1260 PRINT@32+2*I-1,J$;:NEXTI
1265 FORI=1TON:PRINT@416+2*I-1,C
HR$(255);:PRINT@448+2*I-1,CHR$(2
55);:NEXTI
1270 RETURN
1499 'adjust trick score
1500 IFRIGHT$(CC$(2),1)=RIGHT$(C
C$(1),1)ANDLEFT$(CC$(2),1)>LEFT$
(CC$(1),1) THENN(2)=N(2)+1:S=2:RE
TURN
1505 IFRIGHT$(CC$(2),1)=RIGHT$(C
C$(1),1)ANDLEFT$(CC$(2),1)<LEFT$
(CC$(1),1) THENN(1)=N(1)+1:S=1:RE
TURN
1510 IFRIGHT$(CC$(2),1)=T$ANDRIG
HT$(CC$(1),1)<T$ THENN(2)=N(2)+1
:S=2:RETURN
1515 IFRIGHT$(CC$(1),1)=T$ANDRIG
HT$(CC$(2),1)<T$ THENN(1)=N(1)+1
:S=1:RETURN
1520 IFS=1ANDRIGHT$(CC$(1),1)>R
IGHT$(CC$(2),1) THENN(1)=N(1)+1:S
=1:RETURN
1525 IFS=2ANDRIGHT$(CC$(1),1)>R
IGHT$(CC$(2),1) THENN(2)=N(2)+1:S
=2:RETURN
1599 'examine coco K'th card
1600 K$=MID$(H$(2),2*K-1,1):KK$=
MID$(H$(2),2*K,1):RETURN
1699 'decode coco card
1700 I$=LEFT$(CC$(2),1):IF I$="":
THENJ$="T"ELSEIF I$="":THENJ$="J"
ELSEIF I$="<" THENJ$="Q"ELSEIF I$="
=" THENJ$="K"ELSEIF I$=">" THENJ$="
A"ELSEJ$=I$
1705 RETURN
1799 'hold until keypress
1800 PRINT@486,"any inkey to con
tinue";
1805 IFINKEY$="" THEN1805ELSERETU
RN
1999 'coco plays first to win
2000 K=0
2005 K=K+1:IFK>N THENK=0:GOTO202
0
2010 GOSUB1600:IFKK$=T$ANDK$<":
THENCC$(2)=K$+KK$:RETURN
2015 GOTO2005
2020 K=K+1:IFK>N THENK=0:GOTO203
5
2025 GOSUB1600:IFK$>":THENCC$(2
)=K$+KK$:RETURN
2030 GOTO2020
2035 K=K+1:IFK>N THENK=0:GOTO205
0
2040 GOSUB1600:IFKK$=T$ANDK$<":
ANDK$>"7" THENCC$(2)=K$+KK$:RETUR
N
2045 GOTO2035
2050 K=K+1:IFK>N THENK=N+1:GOTO2
065
2055 GOSUB1600:IFK$<":ANDK$>"7"
THENCC$(2)=K$+KK$:RETURN
2060 GOTO2050
2065 K=K-1:IFK=0 THENK=N+1:GOTO20
80
2070 GOSUB1600:IFKK$<T$ANDK$<"8"
" THENCC$(2)=K$+KK$:RETURN
2075 GOTO2065
2080 K=K-1:GOSUB1600:IFK$<"8"THE
NCC$(2)=K$+KK$:RETURN
2085 GOTO2080
2099 'coco plays first to lose
2100 K=N+1
2105 K=K-1:IFK=0 THENK=N+1:GOTO21
20
2110 GOSUB1600:IFKK$<T$ANDK$<"8"
" THENCC$(2)=K$+KK$:RETURN
2115 GOTO2105
2120 K=K-1:IFK=0 THENK=N+1:GOTO21
35
2125 GOSUB1600:IFKK$=T$ANDK$<"8"
" THENCC$(2)=K$+KK$:RETURN
2130 GOTO2120
2135 K=K-1:IFK=0 THENK=N+1:GOTO21
50
2140 GOSUB1600:IFKK$<T$ANDK$>"7"
" THENCC$(2)=K$+KK$:RETURN
2145 GOTO2135
2150 K=K-1:GOSUB1600:IFK$=T$THE
NCC$(2)=K$+KK$:RETURN
2155 GOTO2150
2199 'coco plays second to win
2200 K=N+1
2205 K=K-1:IFK=0 THENK=N+1:GOTO22
20
2210 GOSUB1600:IFKK$=RIGHT$(CC$(
1),1)ANDK$>LEFT$(CC$(1),1) THENCC
$(2)=K$+KK$:RETURN
2215 GOTO2205
2220 K=K-1:IFK=0 THENK=N+1:GOTO22
35
2225 GOSUB1600:IFKK$=RIGHT$(CC$(
1),1) THENCC$(2)=K$+KK$:RETURN
2230 GOTO2220
2235 K=K-1:IFK=0 THENK=N+1:GOTO22
50
2240 GOSUB1600:IFKK$=T$ THENCC$(2
)=K$+KK$:RETURN
2245 GOTO2235
2250 K=K-1:GOSUB1600:IFKK$<T$TH
ENCC$(2)=K$+KK$:RETURN
2255 GOTO2250
2299 'coco plays second to lose
2300 K=N+1
2305 K=K-1:IFK=0 THENK=N+1:GOTO23
20
2310 GOSUB1600:IFKK$=RIGHT$(CC$(
1),1) THENCC$(2)=K$+KK$:RETURN
2315 GOTO2305
2320 K=K-1:IFK=0 THENK=N+1:GOTO23
35
2325 GOSUB1600:IFKK$<T$ THENCC$(
2)=K$+KK$:RETURN
2330 GOTO2320
2335 K=K-1:GOSUB1600:IFKK$=T$THE
NCC$(2)=K$+KK$:RETURN
2340 GOTO2335
2499 'work out score at end of r
ound
2500 FORK=1TO2:IFN(K)=T(K) THENSC
(K)=SC(K)+T(K)+10
2505 IFN(K)>T(K) THENSC(K)=SC(K)+
N(K)
2510 NEXTK:RETURN
60000 FCLEAR1
60005 GOTO20

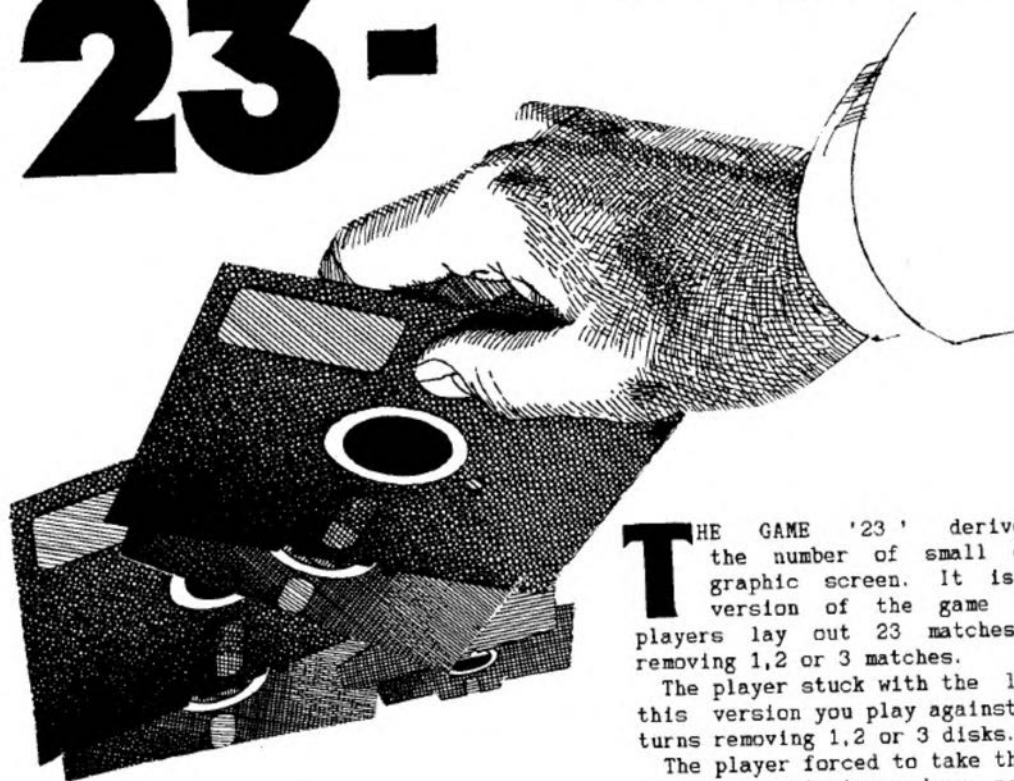
```



by George &amp; Ellen Aftamonow

**-23-**

16KECB



**T**HE GAME '23' derives its name from the number of small disks placed on the graphic screen. It is the Color Computer version of the game '23 MATCHES' where two players lay out 23 matches, each taking turns at removing 1, 2 or 3 matches.

The player stuck with the last match loses. In this version you play against the computer and take turns removing 1, 2 or 3 disks.

The player forced to take the last disk loses. The computer's strategy does not depend on random to make its move and plays a challenging game.

## The Listing:

```

1 GOTO 10
2 SAVE"23:3":END
3 REM * BY GEORGE & ELLEN
4 REM * AFTAMONOW
5 REM *****
10 DIMM(20),B(20):N=23
11 LA$="U6E2R2F2D3N1.6D3BR4":LB$="
"U8R4FD2GRFD2GNL5BR5":LC$="BR6L4
H2U4E2R4BR4BD8":LD$="NR4U8R4F2D4
G2BR6":LE$="NR5U4NR3U4R5BR4BD8":
LG$="BR5L4HU6ER4BD4NL2RD3GBR5":L
H$="U8BR5D4NL5D4BR4":LI$="NU8BR4
"
12 LM$="U8F3ND3E3D8BR4":LN$="U8F
3D2F3NU8BR4":LP$="U8R4FD2GL4BD4B
R9":LR$="U8R4FD2GL2F4BR3":LS$="B
RNHR4EU2HL4HU2ER4BR5BD8":LT$="BR
3U8NL3R3BR4D8":LU$="BRNR4HU7BR6D
7GBR5":LV$="BR3H3U5BR6D5G3BR7":L
W$="BR5L2NU5L2HU7BR6D7GBR5"
13 LO$="BRNR4HU6ER4FD6GBR5":AF$="
"BU8NH2BR4BD8":N2$="NR5UE5UHL3GB
F6GBR4":N3$="BUFR4EU2HNL3EU2HL4B
F8":BB$="BR5":LY$="BR3U5NH3E3BR4
BD8"14 LL$="NU8R5BR4":SL$="NG2E1
0BD10BR4"
20 PMODE4,1:PCLS:SCREEN1,1:DRAW"
BM60,100S32XN2$:XN3$;"
21 DRAW"BM62,102XN2$:XN3$;"
23 LINE(40,20)-(210,120),PSET,B:
LINE(50,23)-(200,115),PSET,B
25 LINE(20,150)-(235,185),PSET,B
:LINE(25,155)-(230,180),PSET,B
30 DRAW"EM40,170S4C1XLB$:XLY$:XB
B$:XBB$:XLB$:XLE$:XLO$:XLR$:XLG$
:XLE$:"DRAW"EM142,170U4NL4NU4R4
":DRAW"EM170,170XLE$:XLL$:XLL$:X
LE$:XLN$;"
31 POKE178,233:PAINT(42,22),,1:P
AINT(22,152),,1
35 PLAY"T2L4O3DDDL8C+DEDC+O2BBL4
AL2AL8AL4AL8BL4AL8O3C+C+C+L4DEL4
.E116FEL2D"
40 CLS:PRINT@97," THE OBJECT IS
not TO REMOVE THE LAST DISK
YOU MAY REMOVE 1, 2, OR 3 DI
SKS AT A TIME. GOOD LUCK.":P
RINT@422,"HIT ANY KEY TO START"
45 EXEC44539
50 CLS4:INPUT"DO YOU WANT TO GO
FIRST(Y/N)":A$:IF A$="Y" THEN T=2EL
SEIF A$(">")N" THEN 50ELSE T=1:K=2
240 PMODE3,1:PCLS:SCREEN1,0
250 CIRCLE(65,70),5,3:GET(60,60)
-(80,80),M,G:GET(10,10)-(30,30),
B,G
260 FOR Y=60 TO 100 STEP 20:FOR X=60 TO
160 STEP 20:PUT(X,Y)-(X+20,Y+20),M
,PSET:NEXT X,Y:FOR X=60 TO 140 STEP 20
:PUT(X,120)-(X+20,140),M,PSET:NE
XT
290 IFT=1 THEN 400
300 T=2:IF N=0 THEN 600
310 DRAW"C1":LINE(0,0)-(250,40),
PSET,BF
320 DRAW"S8BM1,20C3XLY$:XLO$:XLU
$:XLR$:XBB$:XLT$:XLU$:XLR$:XLN$;
"
330 DRAW"BM1,170XLR$:XLE$:XLM$:X
LO$:XLV$:XLE$:XBB$:XBB$:XLI$:XBB
$XLB$:XN2$:XBB$:XLO$:XLR$:XBB$:
XN3$;"
340 I$=INKEY$:IF I$="" THEN 340
350 K=VAL(I$):IF K<OOR K>3 THEN 340
360 IF K=N THEN 340
370 IF K>N THEN 340
380 GOTO 500
400 T=1:DRAW"C1":LINE(0,1)-(240,
40),PSET,BF:LINE(1,154)-(255,180
),PSET,BF
420 DRAW"S8BM0,20C3XLC$:XLO$:XLM
$:XLP$:XLU$:XLT$:XLE$:XLR$;"
430 FOR Q=1 TO 1500:NEXT
440 IF N=4 THEN K=3 ELSE IF N=3 THEN K=2
ELSE IF N=2 THEN K=1 ELSE K=4-K
500 S=N-K+1:FOR Z=N TO S STEP -1:IF
Z>18 THEN Y=120 ELSE IF Z>12 THEN Y=10
0 ELSE IF Z>6 THEN Y=80 ELSE Y=60
510 IF Z=6 OR Z=12 OR Z=18 THEN X=160 EL
SE IF Z=5 OR Z=11 OR Z=17 OR Z=23 THEN X=1
40 ELSE IF Z=4 OR Z=10 OR Z=16 OR Z=22 THE
NX=120 ELSE IF Z=3 OR Z=9 OR Z=15 OR Z=21
THEN X=100 ELSE IF Z=2 OR Z=8 OR Z=14 OR Z
=20 THEN X=80 ELSE X=60
520 PUT(X,Y)-(X+20,Y+20),B,PSET:
PLAY"T200L20005GAGA":NEXT:N=N-K
540 IFT=1 THEN 600 'ending
550 IFT=1 THEN 300 ELSE 400
600 PCLS:FOR Z=1 TO 5:PMODE4,1:PLAY
"T200L200BEEFEE":SCREEN1,1:PMODE
3,1:PMODE4,1:SCREEN0,1:PMODE3,1:
SCREEN1,1:NEXT Z:DRAW"C1":LINE(0,
0)-(254,40),PSET,BF:LINE(1,154)-
(255,170),PSET,BF
610 IFT=2 THEN DRAW"C4BM1,20XLY$:X
LO$:XLU$:XBB$:XLB$:XLE$:XLO$:XLN$;"
620 IFT=1 THEN DRAW"C4BM1,20XLC$:X
LO$:XLM$:XLP$:XLU$:XLT$:XLE$:XLR
$:XBB$:XLV$:XLI$:XLN$:XLS$;"
630 DRAW"BM1,50XLP$:XLL$:XLA$:XL
Y$:XBB$:XLA$:XLB$:XLA$:XLI$:XLN$
:XBB$:XLY$:XSL$:XLN$;"
640 I$=INKEY$:IF I$="" THEN 640
650 IF I$="Y" THEN N=23:GOTO 50 ELSE
IF I$(">")N" THEN 640 ELSE CLS:END

```

# Where did that program come from?

by Allan Thompson

**H**OW MANY TIMES HAVE you used a program from your collection and it needed some modification to suit your purpose? It might simply need different printer codes inserted or it may need variables changed or DIM statements. What do those variables mean?

You need to consult the authors accompanying article but which magazine was it in? Like me, you probably have quite a collection of both mags dating way back. "Been there and done that" eh? Isn't it frustrating. After searching for ages and pr

As always, there is a solution. In fact there are two of them. The first invariably needs the second one first if you have a large collection like me. "Cut the bull and get to the point" you say. OK.

## SOLUTION ONE

Put REM statements at the top of all your programs providing reference material. eg.

```
1 GOTO10
2 REM *****
3 REM *      FILENAME/BAS      *
4 REM *  BILL BLOGGS ADELAIDE *
5 REM *  SEE P15,XX/86 A/COCO *
6 REM *****
7 KILL"FILENAME/BAS":SAVE"FILENAME/BAS":END
10 CLS:PCLEAR....etc
```

## SOLUTION TWO

Record all magazine information and program articles in a suitable database. These should be entered under key words or "fields" and sorted into alphabetical order.

The key word categories used would depend largely upon what your collection consisted of, how much detail you want to record and of course, the capacity of the the CoCo and database you choose to use.

To cover a wide range of topics such as those included in our Australian Rainbow and CoCo, you would need to break the data up into major fields and sub-fields under them.

You could use:

ARTICLES , COMMUNICATION , PROGRAMS , REVIEWS , TUTORIALS and MODS

for the major fields. These in turn, could be broken down.

ARTICLES: COCOCONF , COCO HOUSEKEEPING , HINTS , USERS GROUPS and OTHER.

COMMUNICATION: BBS , HARDWARE , SOFTWARE , GOLDLINK , VIATEL.

PROGRAMS: APPLICATION , GAMES , GRAPHICS , MUSIC ,

ROBOTICS , SIMULATION , SOUND , UTILITIES and OTHER.  
REVIEWS: SOFTWARE and HARDWARE.  
TUTORIALS: ASSEMBLY , BASIC , EDUCATION , OS9 and OTHER.  
MODS: HARDWARE and SOFTWARE.

Once again, each of these could be broken down further. eg.

GAMES: ADVENTURE , ARCADE , EDUCATION.

The database would need to cater for these fields and have sufficient space for each entry and the number of entries anticipated for each field and sub-field. It should have a FAST sort (not like VIP) and most importantly, a search facility. Most databases fall down in the area of capacity. VIP has a database which is a good one except for one thing.

If you sort your data at regular intervals it helps but with a task like a cross-reference index of all our mags, it becomes tiresome. I eventually sorted after each magazine was done.

Has anyone put their A/Rainbow and A/CoCo mags into a cross-reference index database? What program did you use? What are its features? If you know of a good one you would recommend, how about review of it in the Australian Rainbow or CoCo.

If someone can come up with a decent program I can use, I would gladly make my Australian Rainbow and CoCo cross-reference indexes produced thereon available to Graham for distribution through GOLDSOFT. It could be sold as a disk (like "The Best Of CoCoOz").

I would like to take this opportunity to express my sincere appreciation to Graham and the team (and that means all of you who contribute to its success) for doing such a great job for us. Moving into Viatel was a brilliant move.

I have a suggestion for an article in the mags ... or even a special edition for us to order. What about "How to use GOLDLINK" and "How to leave messages on GOLDLINK" (and where): 1) for Graham, 2) for specialist editors etc. and 3) for other members.

Another article (repeat?) could be "How to submit articles and programs for the magazine(s)" ... What format to use ... column widths for 1) articles & 2) for programs. What are acceptable word processors to use if we send in disks or tapes?

By the way, I am on GOLDLINK (Viatel) and my Viatel number to quote is [ 838155830 ] should you want to reach me. Regards to you all.

# TATTSLOTTO CHECKER

by Barry Sidebottom

## 32K ECB APPLICATION

**AS** I HATE checking Tattslotto coupons of a Sunday morning (or whenever), I decided to write a program to do it for me. The result was Lotochek.

The program goes through and checks your numbers and lets you know if you have won. You can either go through the games manually or automatically or you can whip through the whole lot in a few seconds (automatically).

The program does not do systems and works on our 6 numbers from 45 with 2 supplementaries. (Change it

to suit). As sent in it checks 4 games but this could easily be changed by altering lines 32, 33, 293, 231 and entering the new numbering into more data statements as in lines 241-284.

If you use it you will have to enter your own game number into the data statements from line 241-284 and add or delete lines as in 70-99, 100-129, 198-227. You will also have to appropriately alter the number of times the program dimensions etc. It is a bit of work but if you hate checking those coupons as I do - it's well worth it.

### The Listing:

```

1 * *****
2 * TATTSLOTTO CHECKER *
3 * BY *
4 * BARRY SIDEBOTTOM *
5 * *****
6 * VERSION 2.3 1985 *
7 * *****
8 *
9 GOSUB 228
10 * **INPUT ROUTINE
11 CLS:PRINT@97,"INPUT THIS WEEK
'S DRAW."
12 FOR X=1TO6:INPUT"NUMBER:";K(X
):NEXT
13 GOSUB340
14 GOSUB325
15 CLS:PRINT@97,"ARE THEY CORREC
T?"
16 PRINT:FOR X=1TO6:PRINTD(X);:N
EXT
17 Z$=INKEY$:IF Z$="Y"THEN 19 EL
SE IF Z$="N"THEN 11 ELSE 17
18 * ** SUPPLEMENTARY
19 CLS:PRINT@96,"INPUT THIS WEEK
'S SUPP'S."
20 INPUT"1 ";S(1):INPUT"2 ";S(2)
21 GOSUB348
22 GOSUB313
23 GOSUB355
24 CLS:PRINT@97,"ARE THE SUPP'S
CORRECT?":PRINT@162,S(1):PRINT@1
72,S(2)
25 Z$=INKEY$:IF Z$="Y"THEN 27 EL
SE IF Z$="N"THEN 19ELSE 25
26 * ** CHECK MENU
27 CLS:PRINT:PRINT:PRINT" <M>ANU
AL OR <A>UTOMATIC CHECK?"
28 TT$=INKEY$:IF TT$=""THEN 28
29 IF TT$="M"OR TT$="A"THEN30 EL
SE 27
30 IF TT$="M"THEN GOTO31 ELSE IF
TT$="A"THEN Z=Z+1:GOTO 37
31 CLS(2):PRINT@128,"WHOSE GAMES
DO YOU WISH TO CHECK";
32 PRINT@194,"1 - GAME1,
2 - GAME2, ";:PRINT@223,CHR$(159
);
33 PRINT@226,"3 - GAME3, OR
4 - GAME4 ";
34 PRINT@255,CHR$(159);:PRINT@28
7,STRING$(33,159);
35 ZZ$=INKEY$:IF ZZ$=""THEN35
36 Z=VAL(ZZ$):IF Z<1THEN35
37 IF Z>4 THEN 286
38 ON Z GOTO 41,71,101,199
39 GOTO35
40 * ** BARRY
41 IF TT$="A"THEN M$="A"ELSE GOS
UB 140
42 F=1:G=6
43 GOSUB 130
44 PRINT@129,E$
45 GOSUB135
46 PRINT:PRINT
47 FOR X=F TO G:PRINTA(X);:NEXT:
PRINT
48 I=0:J=0
49 FOR E=F TO G
50 FOR X=1 TO 6
51 IF D(X)=A(E)THEN I=I+1
52 NEXT X
53 NEXT E
54 FOR X=F TO G
55 IF S(1)=A(X)THEN J=J+1
56 IF S(2)=A(X)THEN J=J+1
57 NEXT
58 GOSUB 144
59 GOSUB 193
60 F=F+6:G=G+6:I=0:J=0:IF G>60 T
HEN 61 ELSE 43
61 IF TT$="A"THEN 30 ELSE62
62 GOSUB 167
63 IF Z$="Y"THEN 41 ELSE IF Z$="
N"THEN GOSUB 171 ELSE GOSUB 167
64 CLS(5):PRINT@64,D$;" ";K$;
65 PRINT@71,STRING$(25,207);:FOR
X=F TO G:PRINTA(X);:NEXT
66 GOSUB 189
67 IF Z$="Y"THEN GOSUB 177 ELSE
IF Z$="N"THEN 174 ELSE 186
68 GOTO 64
69 END
70 * ** GAME1
71 IF TT$="A"THEN M$="A" ELSE GO
SUB 140
72 F=1:G=6
73 GOSUB 130
74 PRINT@129,F$
75 GOSUB135
76 PRINT:PRINT
77 FOR X=F TO G:PRINTB(X);:NEXT:
PRINT
78 I=0:J=0
79 FOR E=F TO G
80 FOR X=1 TO 6
81 IF D(X)=B(E)THEN I=I+1
82 NEXT X
83 NEXT E
84 FOR X=F TO G
85 IF S(1)=B(X)THEN J=J+1
86 IF S(2)=B(X)THEN J=J+1

```

# PROGRAMS

```

87 NEXT
88 GOSUB 144
89 GOSUB 193
90 F=F+6:G=G+6:I=0:J=0:IF G>60TH
EN 91 ELSE 73
91 IF TT$="A"THEN30 ELSE92
92 GOSUB 167
93 IF Z$="Y"THEN 71 ELSE IF Z$="
N"THEN GOSUB 171 ELSE GOSUB 167
94 CLS(5):PRINT@64,D$;" ";K$;
95 PRINT@71,STRING$(25,207);:FOR
X=F TO G:PRINTB(X);:NEXT
96 GOSUB 189
97 IF Z$="Y"THEN GOSUB 177 ELSE
IF Z$="N"THEN 174 ELSE 186
98 GOTO 94
99 END
100 ' ** LINDA
101 IF TT$="A"THEN M$="A"ELSE GO
SUB140
102 F=1:G=6
103 GOSUB 130
104 PRINT@129,G$
105 GOSUB135
106 PRINT:PRINT
107 FOR X=F TO G:PRINTC(X);:NEXT
:PRINT
108 I=0:J=0
109 FOR E=F TO G
110 FOR X=1 TO 6
111 IF D(X)=C(E)THEN I=I+1
112 NEXT X
113 NEXT E
114 FOR X=F TO G
115 IF S(1)=C(X)THEN J=J+1
116 IF S(2)=C(X)THEN J=J+1
117 NEXT
118 GOSUB 144
119 GOSUB 193
120 F=F+6:G=G+6:I=0:J=0:IF G>60
THEN 121 ELSE 103
121 IF TT$="A"THEN 30 ELSE 122
122 GOSUB 167
123 IF Z$="Y"THEN 101 ELSE IF Z$
="N"THEN GOSUB 171 ELSE GOSUB 16
7
124 CLS(5):PRINT@64,D$;" ";K$;
125 PRINT@71,STRING$(25,207);:FO
R X=F TO G:PRINTC(X);:NEXT
126 GOSUB 189
127 IF Z$="Y"THEN GOSUB 177 ELSE
IF Z$="N"THEN 174 ELSE 186
128 GOTO 124
129 END
130 ' ** PRINT NAME & NUMBERS
131 CLS:PRINT@0,H$
132 FOR X=1TO6:PRINTD(X);:NEXT:P
RINT:PRINT ["S(1)"] ["S(2)"]
133 RETURN
134 ' ** DETERMINE GAME
135 IF F=1THEN Y$="a"ELSE IF F=7
THEN Y$="b"ELSE IF F=13THEN Y$="
c"ELSE IF F=19THEN Y$="d"ELSE IF
F=25THEN Y$="e"
136 IF F=31THEN Y$="f"ELSE IF F=
37THEN Y$="g"ELSE IF F=43THEN Y$
="h"ELSE IF F=49THEN Y$="i"ELSE
IF F=55THEN Y$="j"
137 PRINT@192,D$;" ";Y$
138 RETURN
139 ' ** AUTO OR MANUAL CHECK
140 CLS(5):PRINT@192,"DO YOU WIS
H AUTO OR mANUAL CHECK";
141 M$=INKEY$:IF M$=""THEN 141
142 RETURN
143 ' ** DETERMINE DIVISION
144 IF I=6 THEN 146 ELSE IF I=5
AND J>0 THEN 149 ELSE IF I=5 THE
N 151 ELSE IF I=4 THEN 154 ELSE
IF I=3 AND J>0 THEN 157
145 GOTO160
146 PRINT@352,I$;" 1"
147 GOSUB 163
148 GOTO 162
149 PRINT@352,I$;" 2"
150 GOTO162
151 PRINT@352,I$;" 3"
152 GOSUB 163
153 GOTO 162
154 PRINT@352,I$;" 4"
155 GOSUB 163
156 GOTO 162
157 PRINT@352,I$;" 5"
158 GOSUB 163
159 GOTO 162
160 PRINT@352,"SORRY, ONLY" I"NUM
BER(S)":IF J=1 THEN PRINT"AND ON
E SUPP."ELSE IF J=2 THEN PRINT"A
ND BOTH SUPP'S."ELSE161
161 SOUND 100,1:SOUND 100,3
162 RETURN
163 ' ** HOLD FOR WIN
164 SCREEN0,1
165 FOR X=1 TO 5:PLAY P$:NEXT
166 Z$=INKEY$:IF Z$=""THEN 166 E
LSE RETURN
167 CLS(6):PRINT@194,"DO YOU WIS
H TO VIEW AGAIN?";
168 Z$=INKEY$:IF Z$=""THEN 168
169 RETURN
170 ' ** REVIEW GAME
171 CLS(4):PRINT@193,"DO YOU WIS
H TO REVIEW A GAME?";
172 Z$=INKEY$:IF Z$="Y"THEN 177
ELSE IF Z$="N"THEN 174 ELSE 172
173 ' ** RETURN TO MAIN MENU
174 CLS(3):PRINT@161,"DO YOU WIS
H TO RETURN TO MAIN";:PRINT@238,
"MENU";
175 Z$=INKEY$:IF Z$="Y"THEN 31 E
LSE IF Z$="N"THEN 176 ELSE 175
176 CLS:END
177 CLS(2):PRINT@98,"WHICH GAME
?(a - j)";:INPUT K$
178 IF K$="A"THEN F=1:G=6:RETURN
ELSE 179
179 IF K$="B"THEN F=7:G=12:RETUR
N ELSE 180
180 IF K$="C"THEN F=13:G=18:RETU
RN ELSE 181
181 IF K$="D"THEN F=19:G=24:RETU
RN ELSE 182
182 IF K$="E"THEN F=25:G=30:RETU
RN ELSE 183
183 IF K$="F"THEN F=31:G=36:RETU
RN ELSE 184
184 IF K$="G"THEN F=37:G=42:RETU
RN ELSE 185
185 IF K$="H"THEN F=43:G=48:RETU
RN ELSE 186
186 IF K$="I"THEN F=49:G=54:RETU
RN ELSE 187
187 IF K$="J"THEN F=55:G=60:RETU
RN ELSE 188
188 GOTO 177
189 PRINT@352,"ANOTHER?";
190 Z$=INKEY$:IF Z$=""THEN 190
191 IF Z$<>"Y"AND Z$<>"N"THEN190
ELSE192
192 RETURN
193 IF M$="A"THEN 194 ELSE 196
194 FOR X=1TO5:NEXT:RETURN
195 FOR Q=1 TO 1000:NEXT:RETURN
196 PRINT@448,"PRESS A KEY TO CO
NTINUE."
197 Z$=INKEY$:IF Z$=""THEN 197 E
LSE RETURN
198 ' ** GAME3
199 IF TT$="A"THEN M$="A"ELSE GO
SUB 140
200 F=1:G=6
201 GOSUB130
202 PRINT@129,R$
203 GOSUB135
204 PRINT:PRINT
205 FOR X=F TO G:PRINTW(X);:NEXT
:PRINT
206 I=0:J=0
207 FOR E=F TO G
208 FOR X=1 TO 6
209 IF D(X)=W(E)THEN I=I+1
210 NEXT X
211 NEXT E
212 FOR X=F TO G
213 IF S(1)=W(X)THEN J=J+1
214 IF S(2)=W(X)THEN J=J+1
215 NEXT
216 GOSUB 144
217 GOSUB 193
218 F=F+6:G=G+6:I=0:J=0:IF G>60
THEN 219 ELSE 201
219 IF TT$="A"THEN30 ELSE220
220 GOSUB 167
221 IF Z$="Y"THEN 199 ELSE IF Z$
="N"THEN GOSUB 171 ELSE GOSUB 16
7
222 CLS(5):PRINT@64,D$;" ";K$;
223 PRINT@71,STRING$(25,207);:FO
R X=F TO G:PRINTW(X);:NEXT
224 GOSUB 189
225 IF Z$="Y"THEN GOSUB 177 ELSE
IF Z$="N"THEN 174 ELSE 186
226 GOTO 222
227 END
228 ' ** TITLES
229 C=RND(-TIMER):C=RND(8):IF C=
1 THEN 229
230 CLS(C):PRINT@70,"TATTSLOTTO
CHECKER.";:PRINT@175,"BY";:PRIN
T@264,"BARRY SIDEBOTTOM.";:PRIN
T@391,"VERSION 2.4-1985/6";
231 PRINT@460,"6 OF 45";
232 SCREEN0,1:FOR X=1 TO 2000:NE
XT
233 ' ** DIM ARRAYS
234 DIM A(60),B(60),C(60),V(60)
235 FOR X=1TO60:READ A(X):NEXT
236 FOR X=1TO60:READ B(X):NEXT
237 FOR X=1TO60:READ C(X):NEXT
238 FOR X=1 TO 60:READ W(X):NEXT
239 D$="GAME":E$="game1":F$="gam
e2":G$="game3":H$="THIS WEEK'S N
O. S":I$="CONGRATULATIONS!!-DIVI
SION":P$="T255;O3;ABABABABABAB
AB":R$="game4"
240 RETURN
241 ' ** GAME1
242 DATA 1,7,17,20,34,40
243 DATA 2,18,20,26,30,35
244 DATA 5,11,13,14,15,32
245 DATA 2,3,16,26,31,40
246 DATA 2,19,24,26,31,34
247 DATA 5,11,21,24,36,40
248 DATA 4,6,9,11,17,38
249 DATA 17,21,22,27,35,37
250 DATA 1,7,8,23,29,39
251 DATA 6,10,14,17,24,36
252 ' ** GAME2
253 DATA 2,7,17,30,34,39
254 DATA 17,19,25,34,35,38
255 DATA 5,8,11,21,24,27

```

```

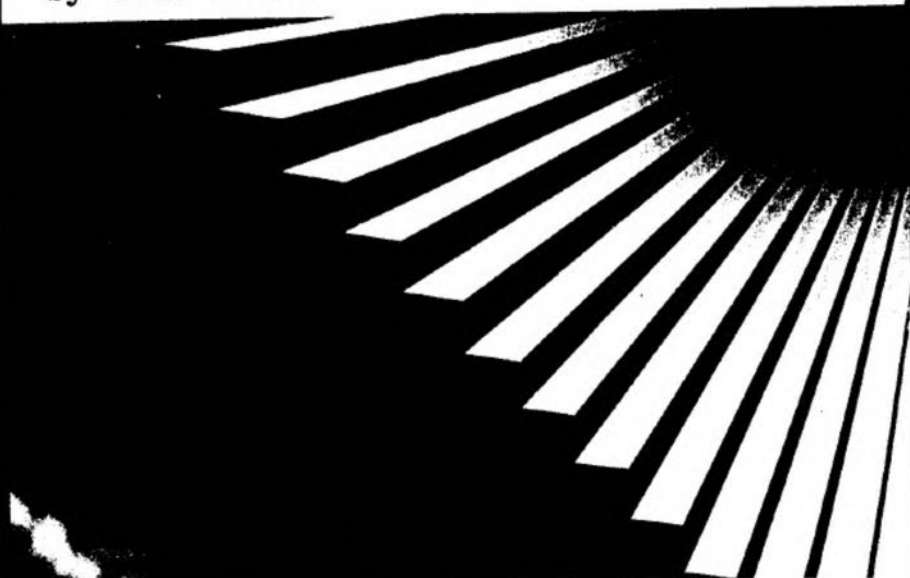
256 DATA 2,11,29,33,35,40
257 DATA 3,14,15,26,34,36
258 DATA 8,12,18,20,22,31
259 DATA 4,9,19,21,23,38
260 DATA 1,6,10,26,27,32
261 DATA 4,7,19,25,28,36
262 DATA 7,13,16,29,33,39
263 ' ** GAME3
264 DATA 5,16,20,25,30,39
265 DATA 1,7,10,28,30,36
266 DATA 2,8,13,17,24,37
267 DATA 2,5,14,16,33,38
268 DATA 4,9,14,19,25,37
269 DATA 5,11,17,21,23,32
270 DATA 9,12,22,27,36,39
271 DATA 7,10,18,28,30,31
272 DATA 1,10,22,28,33,39
273 DATA 6,12,21,22,32,39
274 ' ** GAME4
275 DATA 8,12,13,22,23,33
276 DATA 4,15,23,35,42,44
277 DATA 5,15,27,32,42,45
278 DATA 9,10,17,18,30,31
279 DATA 2,7,14,28,29,35
280 DATA 3,16,21,22,43,45
281 DATA 1,25,26,30,34,40
282 DATA 1,5,19,20,28,29
283 DATA 4,6,10,21,24,43
284 DATA 2,11,37,38,39,41
285 ' ** REPEAT?
286 Z=0:CLS:PRINT:PRINT:PRINT"
DO YOU WISH TO GO THROUGH
THEM AGAIN? <Y/N>"
287 Z$=INKEY$:IF Z$=""THEN287
288 IF Z$="Y"GO TO 27 ELSE 290
289 ' ** CHECK A GAME?
290 PRINT:PRINT:PRINT" DO YOU
WISH TO CHECK ANY PARTI
CULAR GAME? <Y/N>"
291 Z$=INKEY$:IF Z$=""THEN291
292 IF Z$="Y"THEN 293 ELSE CLS:EN
D
293 CLS:PRINT"WHICH GAME-":PRINT
:PRINT" 1..GAME1 2..GAME2
3..GAME3 4..GAME4"
294 PRINT:INPUT Z
295 GOSUB 177
296 ON Z GOTO 297,301,305,309
297 CLS(5):PRINT@64,D$;" ";K$;
298 PRINT@71,STRING$(25,207);:FO
R X=F TO G:PRINTA(X);:NEXT
299 GOSUB 189
300 IF Z$="Y"THEN 295 ELSE IF Z$
="N"THEN 286
301 CLS(5):PRINT@64,D$;" ";K$;
302 PRINT@71,STRING$(25,207);:FO
R X=F TO G:PRINTB(X);:NEXT
303 GOSUB189
304 IF Z$="Y"THEN 295 ELSE IF Z$
="N"THEN286
305 CLS(5):PRINT@64,D$;" ";K$;
306 PRINT@71,STRING$(25,207);:FO
R X=F TO G:PRINTC(X);:NEXT
307 GOSUB189
308 IF Z$="Y"THEN 295 ELSE IF Z$
="N"THEN 286
309 CLS(5):PRINT@64,D$;" ";K$;
310 PRINT@71,STRING$(25,207);:FO
R X=F TO G:PRINTW(X);:NEXT
311 GOSUB189
312 IF Z$="Y"THEN 295 ELSE IF Z$
="N"THEN 286
313 ' ** COMPARE SUPP WITH NUMBE
ES
314 Y=1
315 FOR X=1TO 6:IF S(X)=D(X)THEN

```

# 'CRYSTAL'

by Colin North

32K ECB GAME



Crystal is a graphics adventure where the aim is to get back home. Now you can do this two ways; find the four crystals to fly the the spaceship or go through a maze.

The directions are easy; N,S,E,W and a few more any good adventure would have.

Hope you can get home!!

EDITOR'S NOTE: Due to the size of 'CRYSTAL', the listing does not appear in the magazine, but will be on this month's CoCoOz.

```

316 Y=Y+1:IF Y=3THEN317ELSE315
317 RETURN
318 SOUND 100,2:SOUND 100,2:CLS:
PRINT"YOU HAVE ALREADY ENTERED"
(Y)" AS ONE OF THE SIX DRAWN NU
MBERS";
319 PRINT:PRINT:PRINT"THIS WEEK'
S NUMBERS:":FOR X=1 TO 6:PRINT D
(X);:NEXT
320 PRINT:PRINT"THE SUPP: ";:P
RINT S(X)
321 PRINT:PRINT:PRINT:PRINT"CHAN
GE 1> THE WEEKLY NUMBERS OR
2> THE SUPP."
322 Z$=INKEY$:IF Z$=""THEN 322
323 Z=VAL(Z$):IF Z<0 OR Z>2 THEN
322
324 ON Z GOTO 11,19
325 ' ** SORT ROUTINE
326 G=0:J=0
327 F=0
328 F=F+1
329 G=G+1
330 IF G>6 THEN RETURN
331 FOR H=1 TO 6
332 IF K(H)<K(F) THEN F=H
333 NEXT H
334 GOSUB337
335 K(F)=100
336 GOTO327
337 J=J+1
338 D(J)=K(F)

```

```

339 RETURN
340 ' ** COMPARE FOR OVER 45
341 FOR X=1TO6
342 IF K(X)>45 THEN 344 ELSE NEX
T
343 RETURN
344 CLS:SOUND 100,2:SOUND 100,2:
PRINT:PRINT:PRINT"SORRY ENTRY "
X" IS TOO HIGH"
345 PRINT:FOR A=1TO6:PRINTK(A);:
NEXT:PRINT:PRINT
346 INPUT"PLEASE RE-ENTER: ";K(X
)
347 GOTO340
348 ' ** COMPARE SUPP FOR >45
349 X=1
350 IF S(X)>45 THEN 352 ELSE 351
351 X=X+1:IF X>3THEN RETURN ELSE
350
352 CLS:PRINT:PRINTS(1),S(2):SOU
ND 100,2:SOUND 100,2:PRINT:PRINT
:PRINT"SORRY"
S(X)"TOO HIGH"
353 PRINT:INPUT"PLEASE RE-ENTER:
";S(X)
354 GOTO 350
355 ' *** SORT SUPP'S ROUTINE
356 S(3)=S(1):S(4)=S(2)
357 IF S(3)<S(4)THEN RETURN ELSE
S(1)=S(4):S(2)=S(3)
358 RETURN

```

CoCo



# EGGEMON !

MAILING ADDRESS:  
Eggemon!  
236 Duggald Way  
Karratha  
WA 6714

## BULLETIN



### Egg-torial

Yes, we have arrived at last After a months rest, and more disasters than the San Andreas fault, Eggemon has managed to find its way to your dead letter office. We expect

you'll hate this edition (it really was rather rushed, but we know you'll tell us all about when your nomination forms arrive.

While Eggemon has been in recess, we thought (yes we did), and came to conclusion (did that too!) that well, we're going to publish Eggemon! fortnightly, so as you can have a bit more time to enter and write to us.

So we expect our mail box to be full to overflowing by tomorrow!

Well enuff of that for now. Next you might find the Liars handbook somewhere beneath this madness. Probably on the last page I hazard a guess.

Too all you new readers, if this is the first time you've read this newsletter, then not too worry. Probably the cats first time too. Remember, all subscribers except an exclusive few must send a self addressed stamped envelope if they wish to continue receiving Eggemon!

We can't possibly afford all the postage stamps needed to send this rag.

If any of youse Carmel kids can read (?) this, we want to hear from you too. Our suggestion box is becoming quite delapidated, and Doctor Rae is becoming quite impatient and refuses to talk to me unless someone sends in their 'mystery' illness for her to solve.

Tiki the dog say bark, Cindy the dog also says 'Bark', the cat (named CAT) just sits here scratching the nit out of the latest issue of Eggemon! Uistel users, we really want to hear from you.

Speciall hello's to David F, and my Cuzz in Perth Kerry. No you really have to Write! Your EDITOR

## The Last Laugh. . . .

'When this message is discovered 1000 years from now, the whole world will be glorifying the doctrines of our beloved Chancellor, Adolf Hitler who will live and grow like this oak.'

- message buried in oak tree, Herford, Wesphalia, 1939
- in 1945 the tree was chopped down.

### EGGEMON NEEDS YOU

If you can write, then give us a call. Want to be in the news. WE DO IT ALL. Hate mail, ads, columns, jokes, Anything. FOR FREE!!! so try- EGGEMON! YOUR MAGAZINE



"Can you face the real truth about your self and everybody else?"

## THE BAD NEWS ZODIAC

(It isn't nice, but it's true)

### THE GEMINI WOMAN

At some point in their lives everyone has been taken in by a woman. She seems so pleasant and quick witted, so understanding and appreciative. It's only when you notice some little thing missing from the house - your wallet, for example - that you begin to get an inkling of what the word 'Mercurial' really means.

Gemini Women give the rest of their sex a bad name. They are cheats who use every kind of while to get their own way. Like all people born under this two faced sign, they are pathological liars, so gauging their true emotions is almost impossible. They often have well stocked kitchens since they make adept shoplifters, but they are not great home makers, since left on their own in the home they have no one to rob but themselves. On the other hand, their low cunning can lead to big success in business. They make good saleswomen, with an excellent line in customer flattery, and staying on the right side in office politics comes naturally to them. They have no sense of loyalty and no concept of trust.



They have a reputation for being charming hostesses and they often do alot of their own charming on a one to one basis upstairs and leave the rest of the dinner party feeling rather embarrassed. Gemini women tend to use huge quantities of make-up and hair dye.

### MY FAVOURITE THINGS: Gemini

Richard Nixon, 'Delilah', wide lapels, Cecil Rhodes, brand name sweaters, Andrew Lloyd Webber, Escort XRI's, stiletto's sheepskin coats, 'The Great Train Robbery' MFI furniture, Lionel Ritchie, Al Capone, King Richard III, Frank Sinatra, Las Vegas, Whiteall tyres, Berni Cornfelds-"Do you sincerely want to be Rich?", table nests.

OFFICIAL EGGEMON AWARDS NOMINATION FORM

1. WORST FILM SHOWN 1986  
1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_
  2. WORST TV PROGRAM SHOWN 1986  
1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_
  3. WORST ACTOR/ACTRESS PERFORMANCE IN FILM/TV 1986  
Actor/Actress \_\_\_\_\_ Film Name \_\_\_\_\_  
1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_
  4. BEST FILM SHOWN 1986  
1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_
  5. BEST TV PROGRAM SHOWN 1986  
1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_
  6. BEST ACTOR/ACTRESS 1986  
1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_
- MUSIC:  
BEST SONG/THEME 1986  
1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_
8. WORST SONG/THEME FOR 1986  
1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_
  9. BEST SINGER/GROUP EVER  
1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_
  10. WORST SINGER/GROUP EVER  
1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_

To Nominate, simply answer the questions above by writing three preferences (best to last) in the spaces provided. (Fascimiles and photocopies accepted)

## Three Blind Frogs

(TO TUNE OF THREE BLIND MICE)

Three blind frogs,  
Three blind frogs,  
See how they sing,  
See how they sing,  
They all hopped off to the  
Zookeeper's wife,  
She cut out their tongues  
with a Surgeon's knife,  
Did you ever hear such a  
song in the bog,  
From three dumb frogs.  
ANONIMOUS.



DO YOUR FROGS HAVE THE WOOF?  
don't just throw them  
to the dog,  
We'll fix them up for you,  
We pick up and deliver  
too!  
Call us today!

REVEROF  
ZGORF  
THE GOOD NAME IN FROGGOLOGY

GIGGLETIME: What do frogs drink?  
CROAKA COLA

## Say That Again ?

Did you realise that snails mate only once in their life time, however the act can often last twelve hours. (?)

I don't know about the mating habits of sharks, but many years ago cabinet makers used to use their skin as a fine grade sandpaper.



Did you know, that ducks only lay eggs in the morning?

Another amazing thing is that the word duck isn't mentioned even once in the old testament of the bible.

The altitude limit of birds is roughly the same as that for man, the summit of Mt Everest.

## JOKE TIME

Inscribed on the tombstone of a Hypochondriac: 'I TOLD YOU I WAS ILL'

Where would you weigh a pie?  
SING: 'Some where over the rainbow, weigh a pie'

NEWSFLASH: Forty Pedigree dogs stolen from kennels. Police say they have no leads.

Joke: Why did the Biscuit cry?  
Because his mother was a wafer so long

## An Irish Story...

On a recent saturday night an ambulance went to collect a "suspected overdose" The patient was a very friendly irish gentleman.  
"I took 120 tablets last night" he said  
"You mean tonight", replied the ambulance driver.  
"No", said the patient, "Friday night".  
"Today is saturday, and if you took them on Friday, you'd be dead by now,"explained the driver.  
"Oh well then", said the patient, "it must have been thursday then."

## A Jewish Story

Just after the six day war, a TV interviewer asked Moshe Dayan, 'Tell me general, how did you finish the war in only six days?' 'Well, we only had the tanks on a weeks approval!'

### PERSONAL

To Mucs R Zgorf,  
I think your eyes are like a shimmering moonlit pond.  
Your hair is the tenderness of moss draped on branches.  
Your lips are the kiss of a soft breeze upon the earth,  
YOU REMIND ME OF A SWAMP  
a secret De-mirer

RSUP



# softgold

This is a corrected version of the Turbomouse program that appears in the Turbo Tutor from Borland International.

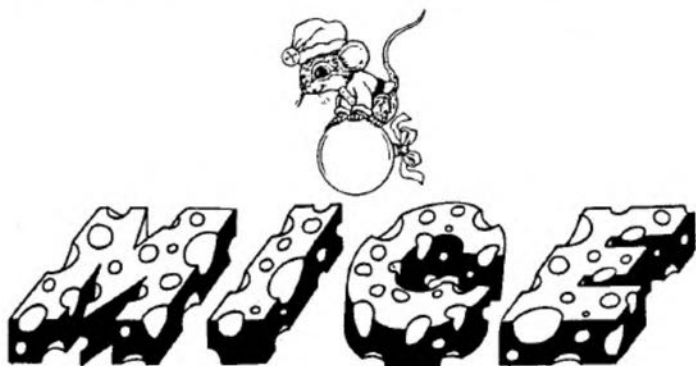
The original version showed how to use the mouse within Turbo Pascal, which it did quite well.

The program moved the cursor on the screen and whenever the left button was pressed was supposed to draw a line from each pixel that the mouse cursor visited.

While the program did this to a point, it did not draw a line when you moved the mouse upward or upward and to the left. The reason for this is that the mouse cursor is shaped like an arrow pointing from the bottom right to the top right, so that when you moved the cursor up, the line was drawn and the cursor wiped it out again! The best result received was a dotted line!

The method of correction was very simple. All that had to be done was to stop the cursor from showing when the pixel was being lit up.

The results of my efforts are show below complete with a full commentary.



by Barry Cawley

```
type
  RegPack =
    record
      AX, BX, CX, DX, BP, SI, DI, DS, ES, Flags : Integer;
    end;

var
  OldX, OldY, X, Y : Integer;
  M1, M2, M3, M4 : Integer;
  RegPak : RegPack;

procedure Mouse(var M1, M2, M3, M4 : Integer);
var
  Regs : RegPack;

begin
  with Regs do begin
    AX := M1;
    BX := M2;
    CX := M3;
    DX := M4;
  end;
  Intr(51, Regs);
  with Regs do begin
    M1 := AX;
    M2 := BX;
    M3 := CX;
    M4 := DX;
  end;
end;

end; ( of proc Mouse )

begin ( main body of program MouseSketch )
  M1 := 0;
  M2 := 0;
  M3 := 0;
  M4 := 0;
  HiRes;
  HiResColor(Yellow);
  M1 := 0;
  Mouse(M1, M2, M3, M4);
  M1 := 1;
  Mouse(M1, M2, M3, M4);
  OldX := 0;
  OldY := 0;
  while not KeyPressed do begin
    M1 := 3;
    Mouse(M1, M2, M3, M4);
    while M2 <> 0 do begin
      M1 := 2;
      Mouse(M1, M2, M3, M4);
    end;
  end;
end;
```



```

Draw(OldX,OldY,M3,M4,1); ( Draw if button pushed )
M1 := 1;
Mouse(M1,M2,M3,M4);
m2:=0;
end;
OldX := M3;
OldY := M4
end
end. ( of program MouseSketch )

```

# MORE

# MOUSE ROUTINES

```

10 '
20 '          ROUTINES AVAILA
BLE TO THE MOUSE          =====
30 '
=====
40 '
50 CLS
60 '
70 'This is a set of Subroutines for the
Ms Mouse Driver that
80 '
90 'No-one seems to be able to get hold
of.
100 '
110 '
120 '
130 'I know when I contacted my supplier
, that to say it was very
140 '
150 'difficult to get hold of these rout
ines was the understatement of
160 '
170 'the year.
180 '
190 '
200 '
210 'Now having eventually got hold of t
hem I pass them on to you, in the
220 '
230 'hope that some of you will create s
ome nice graphic routines and pass
240 '
250 'them on to the rest of us here at S
oftGold.
260 '
270 '
280 '
290 '          Many Thanks and          E N J O
Y
300 '
310 '          Barry
320 '
330 '
340 '
350 '
360 '
370 '
380 '
390 '
400 '
410 'All of these routines have been set
up here as Subroutines so that
420 '
430 'they can be fitted straight into yo
ur programs. As is.
440 '

```

```

450 '-----
460 '
470 DEF SEG=0
'CHECK IF
480 '
490 MSEG=256*PEEK(51*4+3)+PEEK(51*4+2)
'MSMOUSE DRIVER
500 '
510 MOUSE=256*PEEK(51*4+1)+PEEK(51*4)+2
'HAS BEEN LOADED
520 '
530 IF MSEG<>0 AND MOUSE<>2 THEN 570
540 '
550 PRINT "MSMOUSE Driver not Found":END
560 '
570 DEF SEG=MSEG
580 '
590 RETURN: '-----
-----
600 '
610 '          INITIALIZE THE          M1=0
620 '
630 M1%=0
'MOUSE
640 '
650 CALL MOUSE(M1%,M2%,M3%,M4%)
660 '
670 IF NOT(M1%) THEN PRINT "MSMOUSE driv
er not installed":END
680 '
690 PRINT"MSMOUSE driver has been loaded
":END
700 '
710 RETURN: '-----
-----
720 '
730 M1%=1
'SHOW CURSOR          M1=1
740 '
750 CALL MOUSE(M1%,M2%,M3%,M4%)
760 '
770 RETURN: '-----
-----
780 '
790 M1%=2
'HIDE CURSOR          M1=2
800 '
810 CALL MOUSE(M1%,M2%,M3%,M4%)
820 '
830 RETURN: '-----
-----
840 '
850 M1%=3
'GET CURSOR POSITION   M1=3
860 '

```

```

870 CALL MOUSE(M1%,M2%,M3%,M4%)
    'AND BUTTON STATUS
880 '
890 RETURN: '-----
900 '
910 M1%=4:M3%=10:M4%=10
    'SET NEW CURSOR           M1=4
920 '
930 CALL MOUSE(M1%,M2%,M3%,M4%)
    'POSITION TO M3,M4
940 '
950 RETURN: '-----
960 '
970 M1%=5:M2%=0:'left button
    'GET CURSOR POSITION      M1=5
980 '
990 CALL MOUSE(M1%,M2%,M3%,M4%)
    'INFORMATION
1000 '
1010 '           RETURNS:-M1=0 TH
EN BUTTON UP
1020 '
1030 '           M2=BUTT
ON PRESSES SINCE LAST TIME
1040 '
1050 '           M3=HORI
ZONTAL CURSOR POS LAST TIME
1060 '
1070 '           M4=VERT
ICAL CURSOR POS LAST TIME
1080 '
1090 RETURN: '-----
1100 '
1110 M1%=6:M2%=1:'right button

```

```

    ' IDENTICAL TO M1=5      M1=6
1120 '
1130 CALL MOUSE(M1%,M2%,M3%,M4%)
    'BUT FOR M1=6
1140 '
1150 RETURN: '-----
1160 '
1170 M1%=7:M3%=10:M4%=100
    '           M1=7
1180 '
1190 CALL MOUSE(M1%,M2%,M3%,M4%)
    'RESTRICTES MOVEMENT
1200 '
1210 '
    OF CURSOR HORIZONALLY .
1220 '
1230 '
    TO BETWEEN M3% - M4%
1240 '
1250 RETURN: '-----
1260 '
1270 M1%=8:M3%=10:M4%=100
    '           M1=8
1280 '
1290 CALL MOUSE(M1%,M2%,M3%,M4%)
    'RESTRICTES MOVEMENT
1300 '
1310 '
    OF CURSOR VERTICALLY
1320 '
1330 '
    TO BETWEEN M3% - M4%
1340 '
1350 RETURN: '-----

```

# LINE BOX CIRCLE

by Barry Cawley

## The Listings LINE

```

1 SCREEN 1
10 DIM AAA(4400)
20 FOR LOOP=1 TO 90 STEP 5
21 IF LOOP=1 THEN GOTO 25
22 PUT (160,100),AAA,PSET
25 GET (160,100)-(300,100+LOOP),AAA
30 LINE (160,100)-(300,100+LOOP)
40 A=LOOP
50 NEXT
100 IF INKEY$="" THEN 100
110 PUT (160,100),AAA,PSET

```

## BOX

```

1 SCREEN 1
10 DIM AAA(4400)
20 FOR LOOP=1 TO 90 STEP 5
21 IF LOOP=1 THEN GOTO 25
22 PUT (160,100),AAA,PSET
25 GET (160,100)-(160+LOOP,100+LOOP),AAA
30 LINE (160,100)-(160+LOOP,100+LOOP),,B
40 A=LOOP
50 NEXT
100 IF INKEY$="" THEN 100
110 PUT (160,100),AAA,PSET

```

The following three programs Line, Box and Circle are all examples of how to generate one picture on the top of another.

They are provided as a step in the creation of your own graphics editor. The name of each program makes it fairly obvious as to what each program does.

And if you run each program in turn, they each give an example of how they can be used in your own programs. All you have to do is to take out the 'FOR / NEXT' loops and replace them with your own keyboard, joystick or mouse routines to call the subroutine.

Have fun



## CIRCLE

```

1 SCREEN 1
10 DIM AAA(4400)
20 FOR LOOP=1 TO 90 STEP 5
21 IF LOOP=1 THEN GOTO 25
22 PUT (160-A,100-A),AAA,PSET
25 GET (160-LOOP,100-LOOP)-(160+LOOP,100+LOOP),AAA
30 CIRCLE (160,100),LOOP
40 A=LOOP
50 NEXT
100 IF INKEY$="" THEN 100
110 PUT (160-A,100-A),AAA,PSET

```

# HIDE 'N' SEEK

by Norm Greenaway

## The Listing:

```

10 REM ... << HIDE & SEEK >>
20 REM IF YOU ARE NOT USING A GAMES DISK
  WHICH IS MENU DRIVEN
30 REM THEN CHANGE LINE 920 & 940 CHAIN
  MENU TO READ (END)
50 REM LOOKS BETTER IN COLOR.. IF YOU HA
  VE COLOR TRY INSERTING COLOR STATEMENTS
  IN FOLLOWING LINES
60 'line 600 insert after screen 1:color
  7,10
70 'line 790 change color statement to 4
  ,7
80 KEY OFF:CLS:RANDOMIZE TIMER:GOSUB 790
90 DEFINT A-Z:DIM GRID(10,10):SH=15:SU=0
  :TAR=0
100 GOSUB 590
110 GOSUB 450
120 'DRAW SCREEN
130 FOR I=0 TO 10:LINE(32,32+I*10)-(132,
  32+I*10),3,B:NEXT:
140 FOR I=0 TO 10:LINE(32+I*10,32)-(32+I
  *10,132),3,B:NEXT
150 I$=INKEY$:IF I$="" THEN 150 'CHECK F
  OR INPUT
160 IF I$=CHR$(0)+"G" THEN 240 'HOME
170 IF I$=CHR$(0)+"H" THEN 250 'UP
180 IF I$=CHR$(0)+"K" THEN 270 'LEFT
190 IF I$=CHR$(0)+"M" THEN 290 'RIGHT
200 IF I$=CHR$(0)+"O" THEN 310 ' TO END
210 IF I$=CHR$(0)+"P" THEN 320 'DOWN
220 IF I$="Q" OR I$="q" THEN 940
230 IF I$="" THEN 340 ELSE 150
240 GOSUB 750:X=1:Y=1:GOSUB 710:GOTO 150
  'MOVEMENT SEQUENCES
250 GOSUB 750:Y=Y-1:IF Y<1 THEN Y=1
260 GOSUB 710:GOTO 150
270 GOSUB 750:X=X-1:IF X<1 THEN X=1
280 GOSUB 710:GOTO 150
290 GOSUB 750:X=X+1:IF X>10 THEN X=10
300 GOSUB 710:GOTO 150
310 GOSUB 750:X=10:GOSUB 710:GOTO 150
320 GOSUB 750:Y=Y+1:IF Y>10 THEN Y=10
330 GOSUB 710:GOTO 150
340 REM CHECK GRID
350 IF GRID(Y,X)=1 GOTO 150
360 IF GRID(Y,X)=3 THEN GOSUB 530
370 IF GRID(Y,X)=0 THEN GRID(Y,X)=1
380 GOSUB 750
390 XOFF1=32+(X-1)*10:YOFF1=33+(Y-1)*10
400 XOFF2=41+(X-1)*10:YOFF2=41+(Y-1)*10
410 IF GRID(Y,X)=1 THEN LINE(XOFF1,YOFF1
  )-(XOFF2,YOFF2),3,BF 'FILL IN GRID POSIT
  ION
420 GOSUB 710
430 SU=SU+1:IF SU<=15 THEN LOCATE 9,36:P
  RINT SU:SOUND 500,.5,12 :ELSE GOTO 900
440 GOTO 150
450 'SET TARGETS
460 FOR R=1 TO TA+1
470 J=RND(1)*10:I=RND(1)*10
480 IF GRID(J,I)=3 THEN 470

```



```

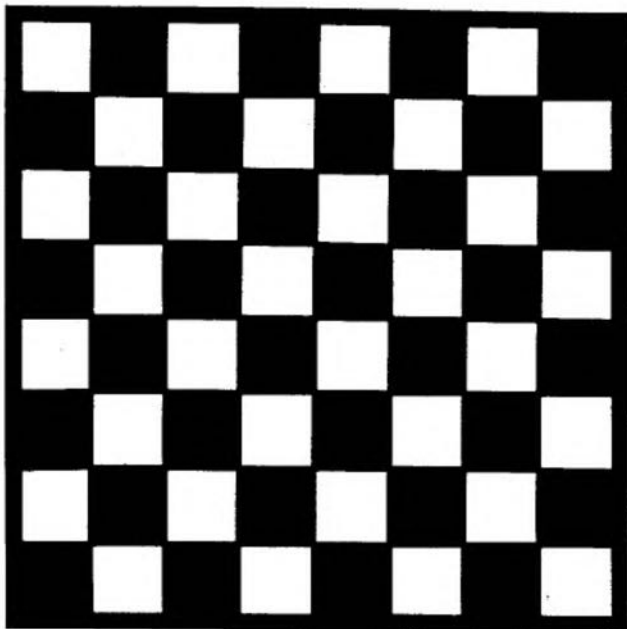
490 GRID (J,I)=3
500 NEXT
510 RETURN
520 REM TARGET HIT.
530 LOCATE 23,10:PRINT"* H I T *":FOR I=
  500 TO 600 STEP 20:SOUND I,1:NEXT:TAR=TA
  R+1:LOCATE 11,36:PRINT TAR
540 FOR I=1 TO 1200:NEXT
550 LOCATE 23,10:PRINT SPACES(20)
560 GRID(Y,X)=1
570 WHILE TAR<TA :RETURN:WEND 'MAIN GAME
  .LOOP
580 GOTO 900
590 'START PROGRAM
600 SCREEN 1:LOCATE 5,5:PRINT"NUMBER of
  targets. (max 15)":INPUT TA
610 IF TA<1 OR TA>15 THEN BEEP:GOTO 590
620 FOR I=1 TO 200:NEXT
630 CLS:LOCATE 1,10:PRINT"<< HIDE & SEEK
  >>"
640 LOCATE 5,25:PRINT" Targets = ";TA
650 LOCATE 7,25:PRINT" Shots = ";SH
660 LOCATE 9,23:PRINT"Shots used = ";SU
670 LOCATE 11,25:PRINT" HITS = ";TAR
680 LOCATE 19,1:PRINT"Press HOME key FI
  RST Then use ARROW "
690 PRINT"keys to move the (+). Press (Q
  ) to end "
700 PRINT"press <space bar> to fire shot
  "
710 GOSUB 780 'print cursor
720 IF POINT(XPOS,YPOS)=3 THEN CURCOLOR=
  0 ELSE CURCOLOR=3
730 PSET (XPOS,YPOS),CURCOLOR
740 DRAW "c="+VARPTR$(CURCOLOR):DRAW "u2
  d4u212r4":RETURN

```

continued on page 67

# DRAFTS

by Norm Greenaway



## The Listing:

```

5 REM To terminate game either enter ' e
  ' at name phase "
10 REM to forfeit game enter ' 0 ' at fr
  om row command"
15 REM When given an 'INVALID MOVE' Pres
  s ANY key to continue...
20 REM Original author not known..conver
  ted to TANDY 1000 by NORM GREENAWAY
25 REM set up board
30 RANDOMIZE TIMER
35 KEY OFF:SCREEN 1:WIDTH 80:CLS
40 DEFINT X-Y
45 X1=20:DX=40:HDX=INT(DX/2):RATIO=1/.57
  :X2=X1+8*DX
50 FOR I=X1 TO X2 STEP DX
55 Y1=X1/RATIO : Y2=X2/RATIO
60 LINE(I,Y1)-(I,Y2)
65 Y1=I/RATIO
70 LINE(X1,Y1)-(X2,Y1)
75 NEXT I
80 LOCATE 1,1:PRINT"Row 1  2  3
  4  5  6  7  8":LOCATE 3,55:PRINT
  "D R A F T S"
85 LOCATE 23,1:PRINT"8"
90 LOCATE 21,1:PRINT"7"
95 LOCATE 18,1:PRINT"6"
100 LOCATE 15,1:PRINT"5"
105 LOCATE 12,1:PRINT"4"
110 LOCATE 9,1:PRINT"3"
115 LOCATE 6,1:PRINT"2":
120 LOCATE 3,1:PRINT"1";
125 LOCATE 4,2:PRINT"c";
130 LOCATE 7,2:PRINT"o"
135 LOCATE 10,2:PRINT"l"
140 LOCATE 13,2:PRINT"u"
145 LOCATE 16,2:PRINT"m"
150 LOCATE 19,2:PRINT"n"
155 FOR I=1 TO 8
160 FOR J=1 TO 8

```

```

165 BOARD(I,J)=0
170 IF (INT((I+J)/2)=(I+J)/2) THEN BOARD
  (I,J)=3
175 IF J<4 AND BOARD(I,J)=0 THEN BOARD (
  I,J)=1
180 IF J>5 AND BOARD(I,J)=0 THEN BOARD(I
  ,J)=2
185 IF BOARD(I,J)=0 THEN 195
190 GOSUB 215
195 NEXT J
200 NEXT I
205 SCORE(1)=12:SCORE(2)=12
210 GOTO 270
215 PX=INT(X1+I*DX-HDX):PY=INT((X1+J*DX-
  HDX)/RATIO)
220 X3=PX-HDX+3:X4=PX+HDX-3
225 Y3=PY+HDX-10:Y4=PY-HDX+10
230 LINE(X3,Y3)-(X4,Y4),0,PF
235 IF BOARD(I,J)=0 THEN 260
240 IF BOARD(I,J)=3 THEN PAINT(PX,PY),1:
  GOTO 260
245 CIRCLE(PX,PY),HDX-3,1
250 IF BOARD(I,J)=2 OR BOARD(I,J)=5 THEN
  PAINT(PX,PY),1
255 IF BOARD(I,J)=4 THEN CIRCLE(PX,PY),H
  DX-9,1 :ELSE IF BOARD(I,J)=5 THEN CIRCLE
  (PX,PY),HDX-9,0
260 RETURN
265 REM enter players
270 FOR O=1 TO 2
275 LOCATE 6,45:PRINT"Name Player"O"(E.x
  it)";
280 INPUT A$(O)
285 IF A$(O)="e" OR A$(O)="E" THEN GOTO
  800
290 LOCATE 6,45:PRINT"
  "+SPACE$(LEN(A$(O)))
295 NEXT
300 P=INT(RND(1)*2+1)
305 LOCATE 6,45:PRINT A$(1):CIRCLE(460,4
  3),7
310 LOCATE 7,45:PRINT A$(2):CIRCLE(460,5
  2),7:PAINT(460,52)
315 JUMP$="N"
320 REM ENTER MOVE
325 LOCATE 6,70:PRINT SCORE(1):
330 LOCATE 7,70:PRINT SCORE(2)
335 IF SCORE(1)=0 OR SCORE(2)=0 THEN 760
340 LOCATE 9,45:PRINT"It's your move, "A
  $(P)+SPACE$(10):SOUND 600,.5,7
345 IF RJMP=1 THEN 730
350 LOCATE 12,45:PRINT"Enter the row
  ";
355 LOCATE 14,45:PRINT "From
  "
360 LOCATE 15,45:PRINT SPACE$(30)
365 A$=INKEY$
370 IF A$="" THEN 365
375 IF A$="0" THEN 755
380 IF A$<"1" THEN BEEP:GOTO 365
385 IF A$>"8" THEN BEEP:GOTO 365
390 LOCATE 14,54:PRINT "Row ";A$
395 FR=VAL(A$)
400 LOCATE 12,45:PRINT"Enter the column"
  :
405 A$=INKEY$:IF A$="" THEN 400
410 IF A$="0" THEN 340
415 IF A$<"1" THEN BEEP:GOTO 405
420 IF A$>"8" THEN BEEP:GOTO 405
425 LOCATE 14,65:PRINT"Column ";A$
430 FC=VAL(A$)
435 IF BOARD(FR,FC)=P OR BOARD(FR,FC)=P+
  3 THEN 465
440 LOCATE 14,45:PRINT"      I N V A L I
  D      M O V E ";:BEEP
445 A$=INKEY$ :IF A$="" THEN 445

```

```

450 LOCATE 14,45:PRINT SPACES(32)
455 IF RJMP=1 THEN 465
460 GOTO 350
465 LOCATE 12,45:PRINT"Enter the row
"
470 LOCATE 15,45:PRINT "To
"
475 A$=INKEY$:IF A$="" THEN 475
480 IF RJMP=1 AND A$="0" THEN RJMP=0:GOT
O 745
485 IF A$<"1" OR A$>"8" THEN BEEP:GOTO 4
75
490 LOCATE 15,54:PRINT "Row ";A$
495 TR=VAL(A$)
500 LOCATE 12,45:PRINT "Enter the column
"
505 A$=INKEY$:IF A$="" THEN 505
510 IF A$<"1" OR A$>"8" THEN 505
515 LOCATE 15,65:PRINT "Column ";A$
520 TC=VAL(A$)
525 IF BOARD(TR,TC)<>0 THEN 440
530 IF ABS(TC-FC)<>ABS(TR-FR) THEN 440
535 DISP=ABS(TC-FC)
540 IF DISP>2 OR DISP<1 THEN 440
545 IF P=1 AND TC=8 THEN BOARD(FR,FC)=4
550 IF P=2 AND TC=1 THEN BOARD(FR,FC)=5
555 IF BOARD(FR,FC)>2 THEN 575
560 IF P=1 AND TC>FC THEN 575
565 IF P=2 AND TC<FC THEN 575
570 GOTO 440
575 ON DISP GOTO 580,595
580 I=TR:J=TC:BOARD(I,J)=BOARD(FR,FC):GO
SUB 215
585 I=FR:J=FC:BOARD(I,J)=0:GOSUB 215
590 GOTO 745
595 MR=(TR+FR)/2:MC=(TC+FC)/2
600 IF BOARD(MR,MC)=0 THEN 440
605 IF BOARD(MR,MC)<>P AND BOARD(MR,MC)<
>P+3 THEN 625
610 IF JUMP$="N" THEN 440
615 I=TR:J=TC:BOARD(I,J)=BOARD(FR,FC):GO
SUB 215
620 I=FR:J=FC:BOARD(I,J)=0:GOSUB 215:GOT
O 645
625 I=TR:J=TC:BOARD(I,J)=BOARD(FR,FC):GO
SUB 215
630 I=FR:J=FC:BOARD(I,J)=0:GOSUB 215
635 I=MR:J=MC:BOARD(I,J)=0:GOSUB 215

```

```

640 SCORE(3-P)=SCORE(3-P)-1
645 STATUS=0
650 FOR X=TR-2 TO TR+2 STEP 4
655 FOR Y=TC-2 TO TC+2 STEP 4
660 IF X<1 OR X>8 OR Y<1 OR Y>8 THEN 710
665 IF BOARD(X,Y)<>0 THEN 710
670 IF BOARD(TR,TC)>2 THEN 685
675 IF P=1 AND Y<TC GOTO 710
680 IF P=2 AND Y>TC THEN 710
685 MR=INT((X+TR)/2):MC=INT((Y+TC)/2)
690 IF FR=X AND FC=Y THEN 710
695 IF BOARD(MR,MC)=0 THEN 710
700 IF JUMP$="N" AND (BOARD(MR,MC)=P OR
BOARD(MR,MC)=P+3) THEN 710
705 STATUS =1
710 NEXT Y
715 NEXT X
720 RJMP=0:IF STATUS=0 THEN 745
725 FR=TR:FC=TC:RJMP=1
730 LOCATE 14,54:PRINT "Row ";FR;
735 LOCATE 14,65:PRINT "Column ";FC
740 GOTO 465
745 P=3-P
750 GOTO 320
755 IF SCORE(1)<>0 AND SCORE(2)<>0 THEN
805
760 IF SCORE(1)=0 THEN I%=2 ELSE I%=1
765 FOR X=5 TO 24:LOCATE X,45:PRINT SPAC
E$(35):NEXT
770 FOR I= 1 TO 5:LOCATE 7,52:PRINT SPAC
E$(18);:LOCATE 7,52:PRINT"** W I N N E R
**":FOR Z=1 TO 100 :NEXT Z, I
775 LOCATE 9,60:PRINT "is"
780 LOCATE 12,53:PRINT A$(I%)
785 LOCATE 20,48:PRINT "Play again (y/n)
";
790 AN$=INKEY$:IF AN$="" THEN 790
795 IF AN$="y" OR AN$="Y" THEN 25
800 CLS:LOCATE 10,35:PRINT "B Y E for n
ow":CHAIN "menu"
805 LOCATE 14,45:PRINT "FORFEIT (Y/N)";:
INPUT F$
810 IF LEFT$(F$,1)="N" OR LEFT$(F$,1)="n
" GOTO 340
815 IF SCORE(1)=SCORE(2) GOTO 785
820 IF SCORE(1)<SCORE(2) THEN I%=2
825 IF SCORE(1)>SCORE(2) THEN I%=1
830 GOTO 765

```

# HIDE 'N' SEEK

continued from page 65

```

750 GOSUB 780:CURCOLOR=POINT(XPOS+1,YPOS
+1)
760 PSET (XPOS,YPOS),CURCOLOR
770 DRAW "c=curcolor; u2d4u2l2r4":RETURN
780 XPOS=38+(X-1)*10:YPOS=38+(Y-1)*10:RE
TURN 'CURSOR POSITION
790 SCREEN 0:WIDTH 80:COLOR 7,0:CLS
800 LOCATE 2,25:PRINT"HIDE & SBEK"
810 LOCATE 3,35:PRINT"by"
820 LOCATE 4,38:PRINT "Norm Greenaway":P
RINT:PRINT
830 PRINT"      The object of the Game is
to find as many Hidden targets on a"
840 PRINT"      10 x 10 grid, as possible
, in a maximum of 15 tries."
850 PRINT"      The number of Targ
ets is determined by YOU. BUT remember..
"

```

```

860 PRINT"      The FEWER the targets the
GREATER the skill(luck)..
870 LOCATE 17,35:PRINT "** GOOD HUNTING
**"
880 LOCATE 22,7:PRINT "PRESS ANY KEY TO
CONTINUE";:AN$=INKEY$:IF AN$="" THEN 880
890 RETURN
900 LOCATE 23,10:PRINT SPACES(10):LOCATE
23,3:PRINT"Game Over-- play again (y/n)
";
910 AN$=INKEY$:IF AN$="" THEN 910
920 IF AN$="Y" OR AN$="y" THEN ERASE GRI
D:GOTO 80 :ELSE IF AN$="N" OR AN$="n" T
HEN CHAIN "MENU"
930 IF AN$<>"y" OR AN$<>"Y" OR AN$<>"N"
OR AN$<>"n" THEN BEEP:GOTO 910
940 CHAIN "MENU"

```

# TABLE FACTS

by Rob McMahon

Having recently 'graduated' to a T1000 from the old faithful CoCo, I'm still getting used to the differences between the two machines.

But I thought you may like to see this program which is my first effort on the new machine.

It prints 100 mental arithmetic tables of your choice and dimentions.

(I did put a limit of 100 to give the children a chance!)

I use this program in the classroom a lot and the children compete with themselves to try and improve on their personal best.

## The Listing:

```

1 REM ROB MCMAHON, FORBES
2 REM
3 REM PROGRAM TO GENERATE TABLE FACTS FO
R PRINTER
10 CLS
20 N=0
100 PRINT "THIS PROGRAM IS DESIGNED FOR
YOU TO USE WITH THE PRINTER."
110 PRINT""
120 PRINT"          IT WILL GENERATE TABLE F
ACTS OF YOUR CHOICE."
125 PRINT""
130 PRINT"          A =          ADDITION.
"
135 PRINT""
140 PRINT"          S =          SUBTRACTI
ON"
145 PRINT""
150 PRINT"          M =          MULTIPLIC
ATION."
155 PRINT""
160 PRINT"          D =          DIVISION.
"
165 PRINT"":PRINT"":PRINT"":PRINT""
170 PRINT"WHAT TYPE OF SUM DO YOU REQUIR
E?"
180 T$=INKEY$
181 IF T$="" THEN 180
185 GOSUB 3000
186 GOTO 1000
190 IF T$="A" THEN 300 ELSE 200
200 IF T$="S" THEN 400 ELSE 210
210 IF T$="M" THEN 500 ELSE 220
220 IF T$="D" THEN 600 ELSE 130
299 'RANDOM ADDITION GENERATOR
300 S$="+ "
320 X=INT(RND * A + 1)
330 Y=INT(RND * B + 1)
340 RETURN
399 'RANDOM SUBTRACTION GENERATOR
400 S$="- "
410 X=INT(RND * A + 1)
420 Y=INT(RND * B + 1)
430 IF Y>X THEN 410
440 RETURN
499 'RANDOM MULTIPLICATION GENERATOR
500 S$="x"
510 X=INT(RND * A + 1)
520 Y=INT(RND * B + 1)
540 RETURN
599 'RANDOM DIVISION GENERATOR
600 S$=CHR$(246)
610 X=INT(RND * A + 1)
620 Y=INT(RND * B + 1)
630 ' TO ENSURE THAT NUMBER CAN BE EVENL
Y DIVIDED
650 IF 1=X/Y THEN 800 ELSE 660
660 IF 2=X/Y THEN 800 ELSE 670
670 IF 3=X/Y THEN 800 ELSE 680
680 IF 4=X/Y THEN 800 ELSE 690
690 IF 5=X/Y THEN 800 ELSE 700
700 IF 6=X/Y THEN 800 ELSE 710
710 IF 7=X/Y THEN 800 ELSE 720
720 IF 8=X/Y THEN 800 ELSE 730
730 IF 9=X/Y THEN 800 ELSE 740
740 IF 10=X/Y THEN 800 ELSE 750
749 'IF YOU DON'T LIKE 11 & 12 DIVISION
THEN REMOVE LINES 750 & 760
750 IF 11=X/Y THEN 800 ELSE 760
760 IF 12=X/Y THEN 800 ELSE 600
800 RETURN
1000 GOSUB 190
1001 LPRINT TAB(1) X" "S$" "Y"=";
1005 GOSUB 190
1010 LPRINT TAB(17) X" "S$" "Y"=";
1015 GOSUB 190
1020 LPRINT TAB(35) X" "S$" "Y"=";
1025 GOSUB 190
1030 LPRINT TAB(53) X" "S$" "Y"=";
1035 GOSUB 190
1040 LPRINT TAB(67) X" "S$" "Y"="
1050 LPRINT""
2000 N=N+1
2020 IF N=20 THEN 5000 ELSE GOSUB 190
2030 GOTO 1000
3000 CLS
3010 PRINT" WHAT MAXIMUM VALUE DO YOU RE
QUIRE FOR THE FIRST NUMBER ?"
3015 PRINT""
3020 PRINT" (MAXIMUM OF 100)"
3030 INPUT A
3035 IF A>100 THEN 3000
3040 LOCATE 10,1
3050 PRINT" WHAT MAXIMUM VALUE DO YOU RE
QUIRE FOR THE SECOND NUMBER ?"
3055 PRINT""
3060 PRINT" (MAXIMUM OF 100)"
3070 INPUT B
3075 IF B>100 THEN 3040
3080 CLS
3085 LOCATE 13,31
3090 PRINT" P R I N T I N G "
3100 RETURN
5000 CLS
5010 PRINT"DO YOU REQUIRE ANOTHER COPY?
( Y or N )"
5020 C$= INKEY$
5021 IF C$="" THEN 5020
5030 IF C$="Y" THEN 10 ELSE 5040
5040 IF C$="N" THEN 5100 ELSE 5000
5100 CLS:END

```

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(Stop between numbers = b.h. else  
a.h.; but, hyphen between = both.)

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 GRANDPRI ..... DOUG GREY  
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 DETECT ..... VAL STEPHEN  
 BREAKOUT ..... WHY/BILT

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 GO ..... BOB DELBOURGO  
 NARZOD ..... MAX BETTRIDGE  
 CHOMPER ..... MAX BETTRIDGE  
 POPBALL ..... MAX BETTRIDGE  
 LUDO ..... WHY/BILT  
 SABRE ..... ANDREW SIMPSON  
 MOVEABOUT ..... KEVIN GOWAN  
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