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FEBRUARY, 1987
Vol 3. No.6

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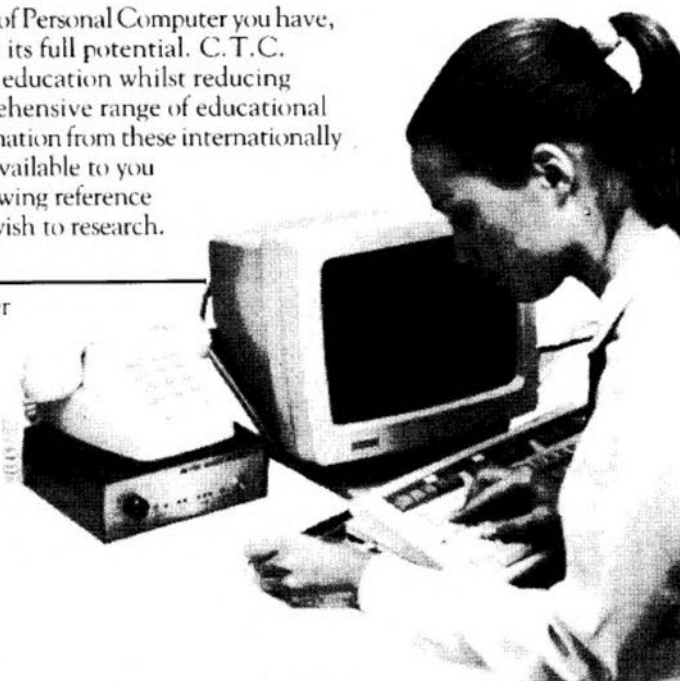
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Who is this magazine for?

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

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Sonya Young and Mike Turk.

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CONTENTS

CLUB ROOM

Clubroom	P 3
It's Party Time!	P 6
Com Station 642	P 10
Com Station 642 News	P 12
Letters	P 13
Scoreboard	P 17
MiCo News	P 18
Random Numbers	Scott Ferrero P 18
A Guide to Better Graphics on the MC 10	Scott Ferrero P 19
Help	P 20
Christmas Crackers	Ros Mahoney P 20
Let's Write a Program	Tom Lehane P 20
Factorial	Les Thurbon P 22

PROGRAMS

CoCo & MC 10 Programs:

Australians Should Encourage Excellence	Monique Bond P 24
Temperature Chart	Harry Hoffman P 26
Dr Dental	Andrew Voutsis P 28
Are You Ready For That Rainy Day?	Harry Hoffman P 30
Draughts	John Neal P 31
Voyager	Wayne Kelly P 34
MiCo 21 (For Tandy MC 10 Computers)	Daniel Adams P 35
Training Our Children To Fight a Computerized War	P 37
Home Budget	Dean Hodgson P 38
Correction - Devilish Tricks	P 41
Screen Text Tutor	Tom Lehane P 42
Hangman (For Tandy MC 10 Computers)	Bob Schecter P 44
Chopper (For Tandy MC 10 Computers)	David Hill P 45
Slot Machine	Sean Lowe P 46
Standard	Ron Barnes P 47
Shopping List	Dean Hodgson P 48
The Battle of the Generals	Andrew McLintock P 49
Address Book	Wayne Kelly P 51
Aussie Bush Ballads	Mal McLauchlin P 52
Hymns	Mal McLauchlin P 53
National Anthems	Mal McLauchlin P 54

softgold

softgold	For your Tandy 1000 or IBM PC	P 56
Freelancing In The Microcomputer Jungle	Mark E. Perlmuter	P 56
PC Bits	Mark E. Perlmuter	P 57
Aquisition Caps off CIC's Growth Year		P 57
The VP 1814		P 57
The Big One	Harry Ellis	P 58
Forward To The Future	Laurie O'Shea	P 59
Subscription Form		P 63
Martha's Trading Post		P 63
Directory		P 64
Users' Groups Contacts	Inside Rear Cover	

clubroom

A Change of Name

an Exciting Future.....

As of next month, we're changing the names of both our magazines.

We believe the time has come to break away from the US and to stand on our own feet.

This was the dream of our founder Greg Wilson, and it has always been a stated aim of the magazine since it came to Queensland.

Slowly, but very obviously over the past few years, the quality of articles & programs have built to the point where our contributing authors can consider themselves equal to, or better than, anything the rest of the world can offer.

Dealing with the US has not been easy, and although Lonnie Falk from Falsoft Inc has always been most understanding & helpful, the cost of importing information, added to the additional costs of an unstable currency have made international dealings - from the importer's standpoint - very very difficult.

As a point of interest, when we looked at the prospect of taking over Australian Rainbow magazine, the Aussie Dollar was valued at about 95c US.

During the ensuing years, it dropped to below 60c and currently struggles around the 65c mark.

Even with the additional price of the magazine over that of Greg's day, the price of Australian Rainbow has always been 'too cheap' balanced against the real costs of production. The business of producing further issues of Australian Rainbow is economically unsound without a major price change of around \$2.00.

Given that pricing need, and given the quality of the articles & programs which are making it to our door from our own authors, the more intelligent decision seems to be to create an Australian magazine at a slightly reduced price.

Rather than being worried by this change, we're excited & stimulated by it. We're sure it can only mean great things for Tandy Colour Computer Users.

However it is going to be confusing for a month or so.

Because the NEW NAME of Australian Rainbow magazine is (ta da) AUSTRALIAN CoCo.

The NEW NAME of Australian CoCo/softgold is SOFTGOLD.

The CoCoOz product name will also transfer to AUSTRALIAN CoCo, and the tape & disk versions of the CoCo programs in SOFTGOLD will be known simply as "SOFTGOLD on Tape (or Disk)".

As I said. It is a touch confusing, but we suggest you observe how it all works over the next month or two before getting too concerned, because the nett effect will be that the product you are purchasing now, for the reasons you are purchasing it now, will be essentially the same.

Goodbye Tandy, Hello InterTAN

Not to be outdone, Tandy also changed their name to InterTAN on Jan 1st 1987.

The name is reflective of the changes to the

International section of Tandy which last year saw Tandy move that section to Canada.

We'll no doubt be bitten by memory loss from time to time, & call InterTAN 'Tandy', but InterTAN is the name from now on!

InterTAN Says...

(As of next month, this will become a separate section in the magazine. It is to be authored each month by one of the InterTAN personnel from Head Office. Usually the author will be Ken Allen, InterTAN's Hardware Buyer, who wrote this first installment. G)

I recently saw a letter from someone who obviously had not been reading Graham's various discourses on how you handle a problem with InterTAN equipment, should one ever arise!

Let me say this - InterTAN people are ALWAYS willing to talk! The key person in problem situations is your local InterTAN Store manager.

He/she can resolve most problems very adequately.

But we have a team of people who either you or he can call upon for back up. They include:

- * Computer Centre customer support people, located in each state.

- * Customer Services at Mt Druitt for help and assistance with software & hardware problems.

- * Peter Morton at Mt Druitt for pricing, marketing and system configuration advice.

- * Goldsoft for Hard and Software advice.

- * Julio Sanchez, our new Software Buyer, or myself, Ken Allen, Hardware Buyer.

- * For really stubborn problems, Mal Williams or Joe Tanner at Mt Druitt.

We WANT to help you, but we can't help you unless we know there is a problem.

InterTAN computer owners are probably unique, in that there are very few companies which encourage customers to talk to the General Manager when things go wrong. InterTAN does.

There is no reason why rumours about our product should exist past a phone call to myself or to Julio. We try hard not to mislead and we certainly don't do it purposefully.

Referring to the letter I saw, the customer, who was complaining, had not been in touch with my office regarding the problems he was having. But he mentioned a few items which I bundle under the heading of 'Rumours' and upon which I'd like to comment.

As you may be aware, the CoCo 3 on some units had a problem. The GIME chip was forced out of its socket by heat expansion. We at InterTAN found the problem, and within one week of the CoCo 3's release had the problem resolved. We now fit a clip to the chip on those machines affected.

ALL Multipac Interfaces in stock have been upgraded. Customer units are upgraded for \$12.50, the cost of the labour involved. (This compares with \$29.95, the price the US charges for the same job. G)

InterTAN has no CoCo 4, 5, 6 or any other number at this point. The CoCo 3 is a continuing product.

Because the CoCo 3 is so new, and as users know, it takes a lot of time to develop, test, debug and document complex software, software has been in short supply.

CLUB ROOM

However this year should see some exciting new products in this area. And don't forget that we will be purchasing the top game sent to Goldsoft for the Games competition (due to close 30th June. G.), so here is an ideal opportunity to assist fellow users AND to earn some money as you do so!

InterTAN's market place is the Home & Small Business market place. This is where we are successful, and where we have all our corporate computer oriented investment.

Unlike many of our competitors, we are successful, so we don't have a cloud of uncertainty with regard to future finances hanging over us, and we have no intent to split our efforts and move in any way from this market place.

So we are here to stay, we are readily identifiable, and we will continue to serve you in the best manner possible.

Except for OS-9 Level 2, there is NO new DOS envisaged for the CoCo 3. InterTAN will not be recalling any CoCo 3's, so if you have a problem computer and have not submitted it in the normal manner for repair, do it now!

(I advised some early purchasers to hold back on Warranty claims until InterTAN sorted out the bugs. This they have done, so the people effected should get their computers back to InterTAN NOW! G.)

Most of the misunderstandings have come about because the end users have not read the manual.

The CoCo 3 is a NEW product. It IS different to the CoCo 2. CoCo 3 was designed to be different. It works well & reliably and is supported by InterTAN, the manufacturer, importer & distributor of the product.

When you look at those facts, bundled with the availability of assistance from InterTAN, it seems very silly indeed to look elsewhere for a computer!

InterTAN Creams Christmas!

This year, InterTAN got their timing right with the arrival of the right product on time for Christmas. This is always a tough job for the buyers because they have to order almost a year in advance.

But not only that. The opposition seemed to have very little to supply in competition.

The net result was a wonderful near 100% sales gain on last year!

We congratulate the team of buyers and store personnel who made this happen! This is a top result!

Christmas in Sydney / Canberra

Annette, Katie & myself spent Christmas in Sydney with our families, and I took the opportunity to see a number of users and of course, some of our rare but highly valued advertisers!

I had big plans to also spend time with some of the Canberra folk too, but I caught the Sydney wog, and although I went to Canberra to attend to the jobs I was committed to, I then left & headed straight to bed for a day or two.

So to those I missed in Canberra, I apologise...next time eh?

I did get to the Bashes in both Sydney & Canberra & I've got to tell you that our Viatelian friends are ragers of the highest order...just wish I'd been there in more than body! But more on that later in the magazine!

Eggemon

Eggemon certainly has the ability to polarise

opinions, if nothing else!

Those who like it, do; and those who don't, don't!

So this month, for those of you who don't like it, we present a special edition of Eggemon starting on page 102.

I might also add that I previously stated that Eggemon was prepared on 'Print Shop'. This is not the case, the program 'Newsroom' is the culprit! Newsroom is available for the Tandy 1000 computer.

New Readers

Due to InterTAN's unqualified success at Christmas, there are a large number of people who have been introduced to this magazine over the last month or two. We know that because it has been very hard to find a copy of Australian CoCo/softgold in the shops!

As you get to know your computers, remember what Ken Allen has to say in the 'InterTAN Says' section this month, & remember too that we and your local Users' Group are at hand to help you.

The Users' Groups have mostly been around for quite a few years now, and most have very keen people in them who want to assist you, but if you are too far from one, call us, we'd love to hear from you and give you a hand!

Education

This year computing in Education is going to be about Software availability and Communications.

Karel Davey, Tandy's National Education Coordinator, has just completed an update of the Tandy Software Sourcebook, which lists education based software available in Australia which is IBM PC compatible.

This book is a must for anyone who owns an IBM PC or clone, which of course is what the Tandy 1000 is!

And CTC's database has been enlarged significantly over the past few months. It now offers a very wide range of on line services for the student.

Formerly known as 'Stars', CTC's database even has a range of Pencom's Educational Software for sale & download off the system! Very convenient indeed!

At Goldlink #642# on Viatel, we have established a Homework Help section.

You'll be able to logon most nights, leave a question on the system, and one of our teachers will try to help you just as soon as possible.

We have two teachers so far who will be overseeing the system, but we're looking for more, so if you are a teacher, and you're prepared to assist, then please contact us!

The new Tandy 1000EX computer is set to hit the streets very soon. This computer has enjoyed considerable success in the US as a computer suited to the Education environment, in fact it has been a sell out there, and the delay in the release of the Australian model is due in total to the huge US demand on the Fort Worth plant.

I'm privy to some of Tandy's intent for this machine, and if it achieves anything close to their predictions, we'll see some very exciting things happening in the near future.

Pen Pals

Martha saw a letter to Scoreboard recently which suggested we start a Pen Pals section.

I don't know about that, I don't think it would

be that popular, but Martha blotted her copy book first night back on Viatel & I think she's looking for a way to make up without appearing to!

So if there are people who would like to let others know that they would like to have a Pen Friend, then by all means write to Martha, & she can place the information in her Trading Post!

Canada

We welcome another Canadian Author to these pages. Mark E. Perlmutter will bring information to us on the Canadian scene as well as articles of interest to the Tandy 1000 user.

The magazines growing success in Canada, & the recruiting of quality authors like Mark E. Perlmutter is a credit to Richard, our agent in Ottawa, to whom we are grateful.

T1000 News

As mentioned, the Tandy 1000 EX is due in the country in late February and will be released in March.

The SX is dogged by the same popularity problems & will be somewhat later.

Meanwhile the current T1000 is selling strongly and the T2000 has sold out entirely!

InterTAN have employed a new Software Buyer, Julio Sanchez. Julio's first priority has been to establish a good trading relationship with the IBM PC software suppliers here in Australia, and having accomplished this, begin to offer THROUGH the stores (ie, not 900 series), a very comprehensive range of software for the T1000 series.

We should begin to see the results of Julio's efforts towards the end of this month.

(Penrith NSW readers will remember Julio as the very active manager of one of the stores in that town.)

Bruce Sullivan

We extend to Bruce our heartfelt sympathy upon the death of his wife on 2nd Jan.

Bruce holds a special place in the lives of many Tandy Computer users due to the magnificent way he has served us over a very extended period.

We want him to know that we care.

InterTAN Store Award

A store which has been bugging us lately, & therefore by definition, is doing a better than average job for its customers is the InterTAN store at Fig Tree, NSW.

It's not only the personnel from that store, but also their customers who have been ringing, asking for advice, & at the same time telling us how great the staff at Fig Tree are!

So we really have little option than to award Fig Tree our InterTAN Store Award this month - we'll send them a suitable decoration for their loo in due course!

Clubnews

There have been some changes around the clubs over christmas. This is to be expected as people move from city to city, job to job.

Our long term contact in Tamworth, Robb Webb, has had a move to Sydney. So Tamworth for the first time in many years will have to do with out him.

I can not underline just how important Robb has been to his region, & I'm sure the users of the New England in general join with me in wishing him well

for the future.

I've finally fixed a couple of annoying spelling errors. The first is the Colyton suburb name in Sydney, the other is Ross Pratt's name in Cooma. Tis such a relief to have these right!

Morris Grady is another long term associate of this magazine, and former agent for us, who is moving from Morwell to Melbourne.

I know he will be missed very much; I know he will be a big asset to one of the clubs in Melbourne.

Leigh Davies will take his place in Traralgon.

Dubbo area readers please note that Graeme's number has changed.

John Wallace phoned to say that the first meeting of the Wyong group will be on the 1st March this year. The hall has access for wheel chairs so that the disabled people with whom he has been working may also attend.

Phone John for further details.

Bob Devries has also changed his phone number to 07 373 7816.

Jeff Larsen is the new contact in the Cairns area. Despite what we say on Goldlink, Jeff is really quite approachable most days, and he has a special interest in OS-9. So those of you in the north should feel quite lucky to have him nearby... (I'm only copying from what he wrote!)

The big news is that due to the great work of Steve Youngberry, we have had an explosion of interest in his area at Tara!

Yes, even though the place is small, our readership has increased there by 33%!!

And to cope with the new rush, we have a new contact in the area!

(We previously had Debbie & Steve, now we've added another - that's a 33% increase!!).

I promised myself I'd mention Carol Cathcart at Gladstone, now I've done it I can't remember why exactly, but if you're in the area, call her for any help you need with programming!

Welcome to the Teachers' Special Interest Group which begins with Bob Horne as a very worthy contact!

If you are a teacher & you are using Tandy computers at school or at home, contact Bob & let him know what you are up to.

Bill Boardman who has been our contact in the Port Lincoln area for some time now has purchased a T1000, so anyone in the area with a similar computer will benefit from contact with him.

Geoff Fiala's name has been added to the Robotics list. This should have been done ages ago, but is now fixed! Geoff wrote the book as far as CoCo's & robotics are concerned!

A new 24 hour 300 baud Bulletin Board started in Hobart this month. Called HUB, the SYSOP is our friend Denise Webber, & she'd enjoy hearing from you!

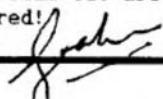
I've included a few more Viatel numbers of Tandy computer users for the convenience of those who have access to Viatel.

The list is not meant to be exhaustive, but if anyone else wants me to add or delete their name from this list, they should contact me in the usual way (64214) on Viatel.

A couple of groups I know are really stretched at present, the Ballarat group is one, the Wyong group looks like it could also have a lot of people too, so if people from other nearby groups can help for a while, I'm sure such help would be really appreciated.

Finally, the Gold Coast group gets under way again on Wednesday, 4th February at 7.30pm.

Please bring programs or problems YOU are working on, otherwise you might get bored!



par'ty n. body of persons united in cause or in opposition to another body; body of persons travelling or working together; social gathering; persons consenting or contributing to affair; - **line**, shared telephone line.

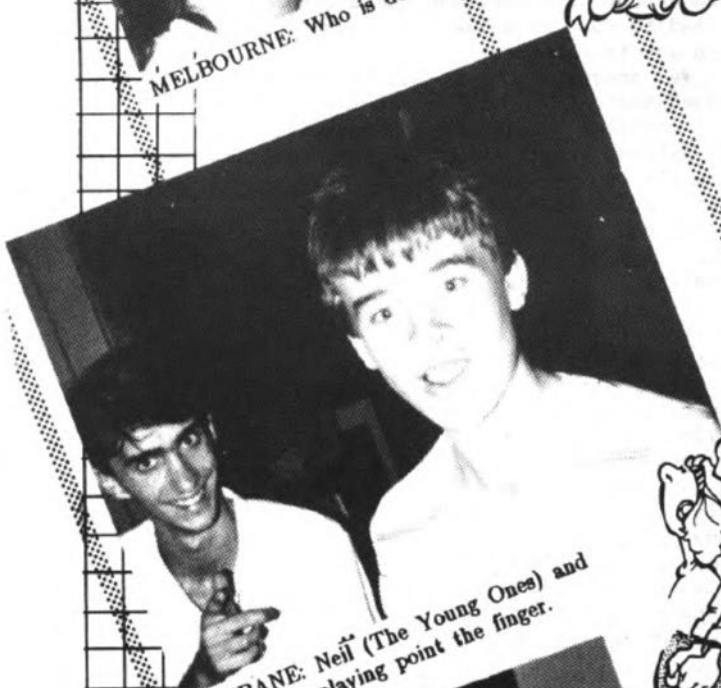
It's PARTY



MELBOURNE: Who is doing what to Big M?



MELBOURNE: Manticore, Princess Cygnus and Eddorean just before the light fell.



BRISBANE: Neil (The Young Ones) and Sigie Sigie playing point the finger.



MELBOURNE: The wonderful and talented hairy person and friend.



CANBERRA: Sally showing off her Sega.

MELBOURNE: Astro-Zombie enjoying a tet-a-tet with a rather slim Mr. Hill.



BRISBANE

ADELAIDE

CANBERRA

MELBOURNE

YTIME!

BRISBANE: There is always one in a group, this time it's UFO's turn.

MELBOURNE: No, No Ratbag you are supposed to snort it...it's the real thing.

MELBOURNE: First entrant in our couple of the month...Hobo and Helen.

MELBOURNE: The ever fashionable Swan and Wombat modelling the latest grope gear.

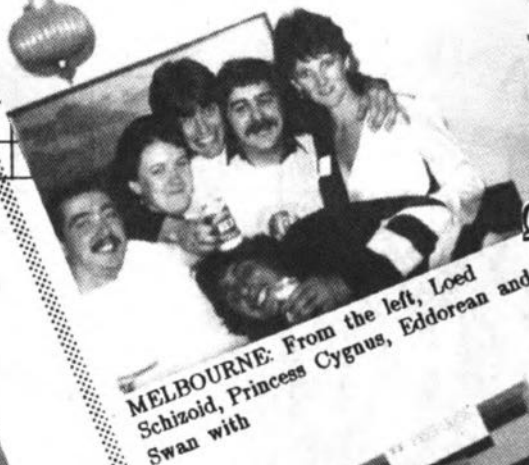
MELBOURNE: Four unsuspecting victims of the dreaded slime...Big M, Rev, Jaye and Batrag.

BRISBANE: TNO and Belinda sharing a small joke... sorry TNO.

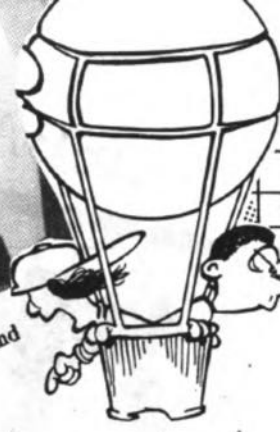




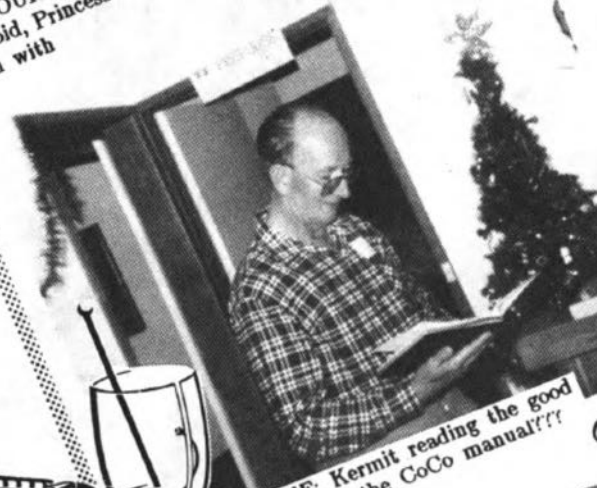
MELBOURNE: This is Jaye showing her bending fork trick.



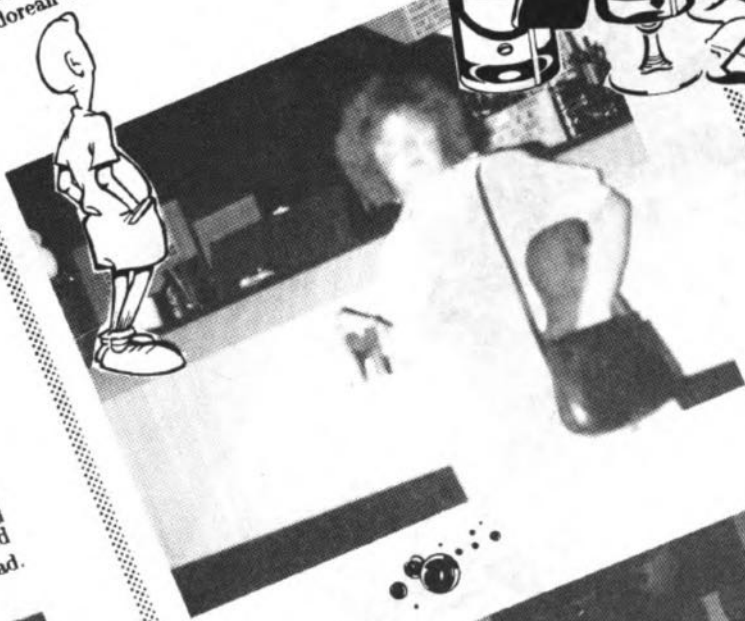
MELBOURNE: From the left, Loed Schizoid, Princess Cygnus, Eddorean and Swan with



MELBOURNE: Princess Cygnus, a very 'up' Eddorean and Swan.



MELBOURNE: Kermit reading the good book... isn't that the CoCo manual???



MELBOURNE: Coyote showing Deb007 how to tie the knot.



MELBOURNE: En Passant and Vortex's brother's nose and forehead.



MELBOURNE: Threesome of the month... Lord Schizoid Princess C and The Supreme Commander.



MELBOURNE: It's OK En Passant, it's not suppose to answer back...you mean it did...??



MELBOURNE: Somebody pull the string, her head has fallen again.



BRISBANE: The Brizzy crew and...put it away Neil.



MELBOURNE: Looking right..eh left..that is your left their right...oh forget it.



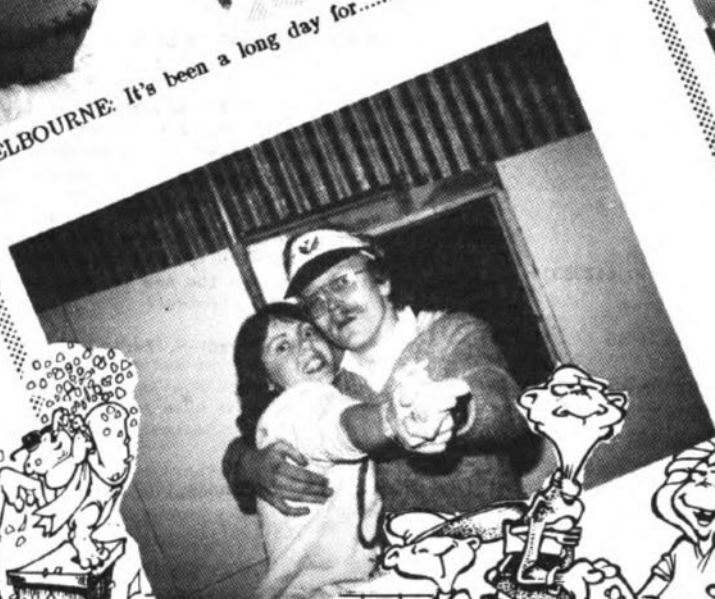
MELBOURNE: It's been a long day for.....????



MELBOURNE: Solitaire, Leisa, Supreme / Commander and in the background White Rabbit and the unseen Princess C.



MELBOURNE: Mopar and Sunny share a moment



MELBOURNE: Caught in the act????????



COM * STATION 642

GOLDLINK 6423532a 0c
Tandy Users' BBS Member
350952500
FRI 16 JAN 1987 20:26:26

BILL,
THE NEW COCOTEX PROGRAM DISK (NOT SURE ABOUT TAPE, BUT ASSUME IT'S THE SAME) HAS THREE PROGRAMS ON IT..1. FOR THE COCO2.. (MONOCHROME.) 2. FOR THE COCO3, FULL COLOUR VIATEL PROGRAM..3. FOR THE COCO3, WIDE SCREEN FULL COLOUR VIATEL PROGRAM.. YOU CANNOT GET COLOUR ON COCO2 ON VIATEL.. BUT YOU DO GET THE NEW SUBROUTINES WHICH SAVE A LOT OF TIME ON V/TEL..

EDDOREAN....

*

GOLDLINK 6423531a 0c
Tandy Users' Board Member
737532360
THU 20 NOV 1986 21:17:55

To alter the display modes on the new CoCo III, try this:

POKE &HE7,1 > WIDTH40

POKE &HE7,2 > WIDTH80

POKE &HE7,0 > WIDTH32

without destroying the contents of any of the screens.

DEEBEE.

*

GOLDLINK 64235311a 0c
Tandy Users' BBS Member
350952500
SUN 11 JAN 1987 16:41:41

MANY THANKS TO THE COCOTEX KID FOR MY NEW VERSION OF COCOTEX... IT'S A GREAT PROGRAM AND OBVIOUSLY TOOK A LOT OF WORK AND EFFORT... THANKS FOR YOUR HELP IN SHOWING ME HOW TO OPERATE IT TOO !!!!

EDDOREAN....

NOW ALL I HAVE TO DO IS GET INTO THE HBIT OF USING THE NEW KEYS !!!

Not bad service is it! G

*

GOLDLINK 64235310a 0c
Tandy Users' BBS Member
262289400
SAT 20 DEC 1986 18:24:15

Sick of using the SHIFT-@ Keys to control fast Scrolling..... Try this.....
2 FORX=1000TO1010
4 READA:POKEX,A:WEXTX

6 POKEX383,126:POKEX384,3:POKEX385,
232:POKEX422,126:POKEX423,3:POKEX424,232
8 DATA 52,16,142,0,1,189,167,211,
53,16,57
10 NEW

12 'RUN, THEN POKE 1003,200 FOR SLOW SCROLLING (VARY 200 FOR DIFFERENT SPEEDS).<(TA TO P.G.)>///ART///

*

GOLDLINK 6423568a 0c
OS9 Users' Board Member
262289400
SUN 18 JAN 1987 15:41:43

Definitely have to agree with --Rosko! re the CoCo 3, what with CoCotex 3, and a LOT of other Terminal programs, this Machine is worth it's money.
P.S. --Rosko!--...Help re MickeyTerm Xterm & RD3.

///ART///

*

GOLDLINK 6423566a 0c
OS9 Users' Board Member
234491110
WED 14 JAN 1987 16:03:17

Sorry Jeff, but I'm having too much fun with my Coco 3 to have to go back to a two or one now! An 80 column screen with decent attributes (flashing, underline, highlighting (or colour if you have it!)) are too good to miss!, and free RAMdisk to boot (literally!). And FAST OS-9, now it runs as fast as it SHOULD. Ah well, I guess I will have to put up with such torture a while longer :-)

--Rosko!--

*

GOLDLINK 6423563a 0c
OS9 Users' Board Member
705471270
FRI 09 JAN 1987 20:39:44

Have just had word that there will be no OS9 level 2 until MARCH. That's the worst news I've had this year. 512K Cocos are due 'soon'. I wonder what that means.

JEFF

*

GOLDLINK 6423435a 0c
Atari Users' BBS Member
234491110
MON 12 JAN 1987 10:52:54

Paris Radio is NOT ALLOWED to sell the Macintosh ROMs required for our Magic Sacs. However, they can be purchased by mail order from the U.S. for \$US50 /pair plus postage. We now have a list of what does and doesn't run on the emulator. Some include Exel (the unprotected vers) and Ready-Set-GO! (please note - by unprotected I mean the new versions by Microsoft, NOT pirates!)

--Rosko!--, Paris Radio

*

GOLDLINK 6423662a 0c
The IBM PC & Tandy 1000 Board
062000610
THU 15 JAN 1987 15:11:22

Whenever I try to load BASIC in my computer I get a message "Divide overflow" What does it mean and how do I correct it?????

*

GOLDLINK 64235615a 0c
OS9 Users' Board Member
264912590
WED 31 DEC 1986 00:49:33

Rosko and others,
Does anyone know where the uncorrupted files for the Ramdisk and 80 column screen are for the Coco3. I downloaded them from the Coco Connection and kept on getting error detected when I tried to return them from s-record. Also, if anyone is after a good OS9 xmodem program, I can also be found on the Coco Connection, file is called CModem, downloaded from PBBS4.0 in Arizona

*

GOLDLINK 6423562a 0c
OS9 Users' Board Member
705471270
TUE 06 JAN 1987 22:37:27

If you are using STYLO to write a file that will be used later by Telewriter (that is transferred to a RS-DOS disk) watch out for the length of your lines. Stylo stores a file without any control codes. The programme S/ASC on the TW64 disk will only accept lines up to 255 characters and discards the rest. The solution: go through your stylo file before transferring it to a radio shack disk and add carriage returns at the end of each line. TW64 will add to or delete these as you format the file.

*

GOLDLINK 64235614a 0c
DOS9 Users' Board Member
234491110
MON 29 DEC 1986 11:05:01

To anyone with a coco3 and OS-9 v2.0 I have finally found the RAMdisk driver and 80 column driver. They are both on the Coco Connection in Sydney, and soon to be on Infocentre too. The RAMdisk is 48K, and the 80 col is 80x25 (!), both use the extra 64K page NOT main memory. I found one hitch with the 80 col. in that it needs nuls when u use it for a terminal screen at 1200 baud, on Unix it is fixed by 'etty n12' (this is caused by the interrupts being clobbered to scroll the screen). --Rosko!--

*

GOLDLINK 64234310a 0c
Atari Users' BBS Member
234491110
FRI 05 DEC 1986 15:03:53

MAC EMULATOR! MAC EMULATOR! MAC EMULATOR!

The Macintosh emulator for the ST has arrived! Now you can run MacPaint, Ready Set Go and many other top Mac programs on your Atari ST, up to 20% faster (or more if you use RAM disk), with a 30% bigger screen (some software utilizes full ST screen). Requires 520 or 1040 ST with mono monitor, and 64K Mac Boot ROMS (available from U.S.)

- Paris Radio

*

GOLDLINK 64236312a 0c
Commodore Users' Board
667774760
THU 15 JAN 1987 21:00:33

My 64 is causing me some problems, when I use it normally (without the Viatel adaptor) the colours get all mixed up and it is extremely difficult to read, but when I use the adaptor on Viatel, the colours are perfect. Could you please tell me what is wrong with it.....

Fiery. (how come we don't have graphics on this board

When we originated BBS with Graphics on Viatel, most Commodore owners were still having problems logging on! I've just fixed it so you can grafix away!

*

GOLDLINK 6423639a 0c
Commodore Users' Board
060400080
TUE 13 JAN 1987 22:59:59

I have been mucking about with an old joystick lead, and want to know more about the analogue/digital converters for paddles situated at 54297 & 54298, ie max. and min. voltages. Thanks.

Also anyone who has completed the adventure Wishbringer could you please contact me.

Commodores and Tassie Rule!!!!

Dr. Teeth

*

GOLDLINK 6423664a 0c
The IBM & Tandy 1000 Board Member
034430810
SUN 18 JAN 1987 03:06:11

I HAVE JUST UPGRADED A T1000 128K COMPUTER WITH A 256K AND 128K UPGRADE KITS, BUT WHEN I TURN THE COMPUTER ON THE MEMORY SIZE IS 256K AND A MEMORY READ ERROR. CAN ANYONE OUT THERE HELP ME

FRANK

Have you placed the jumpers as per the instructions?

*

GOLDLINK 6423969a 0c
The MSX Users' Board
434315070
SUN 18 JAN 1987 00:49:01

> Peter, Use this board!!.. that's wot it's here for. In answer to your Q.s try Poke &HFF89,&hC9
Poke &HFF90,&h00
Poke &HFF91,&h00

The Above pokes will disable LIST by crashing and Resetting the Computer. Whoops. err try Poke &HFF89,&hC3

Poke &HFF89,&hC9 returns list back to normal. &hC9 = Return where &hC3 = Jump to address ??.

CGSMUI C

*

GOLDLINK 6423669a 0c
The IBM & Tandy 1000 Board Member
755100150
FRI 28 NOV 1986 13:55:03

A 2 day course is available for users of Tandy 1000's & IBM PC's & clones.

The course covers Hardware; Op systems how to use software.

Each student is provided with their own workstation.

The cost is \$120 for the weekend & further details can be obtained from: Advanced Computer Training 07 208 6911 (Rod Young)

Other courses are available in Pascal, Forth dBase & WP.

*

GOLDLINK 642386a 0c
NIX - The Amstrad Users' Board

NIX - Network Information Exchange - the Bulletin Board for Amstrad owners sponsored by Amsnet International.

Whether you have a MS DOS or CPM based Amstrad Computer, this is the place on Viatel for you to seek help, or to let everyone know what you've just discovered!

Amsnet International will be online soon with lots of product & information for you!

Please note that messages inferring a request for copies or swaps of software will not be placed on this Board.

*

GOLDLINK 64231438a 0c
Clubroom Goldlink Member
From: 063003280
MON 19 JAN 1987 22:04:13

The March bash. Where, when, why, how much? I'll gladly come. I could sing a medley of Finnish protest songs, show the slides of the chanding of the guard at the local shoe factory and finish off by reciting several passages from Homer. Such merriment is not often available these days.

WOODROW

I can just see you doing that too!! I think you'll do better if you stick with the Trumpet solo from 'Comfort ye' (Handel's Messiah). I'm sure the troupes would like to hear you play it!

*

GOLDLINK 64231447a 0c
Clubroom Goldlink Member
From: 665286910
MON 19 JAN 1987 22:27:24

I Was just reading your nuclear survival thingo. (interesting!). I understand that if an all out attack does occur that afterwards you can send complaints to Ronald (I am no senile!) Drearygon C/O The bunker
What's left of Washington D.C.
United craters of America.
ZARD). (so don't say you have no one to complain to!)

Almost forgot that was there!! Gee, we must put the rest of that info online!

*

GOLDLINK 64238613a 0c
NIX - The Amstrad Board Member
298151500
SAT 17 JAN 1987 14:36:48

> I know at least 10 people who use Viatel & own an AMstrad. I'll mb them.

the PCV Autralia Group

meets the second Tuesday of each month

contact (02) 981 2966 for some info.

RUNNER

*

GOLDLINK 64231443a 0c
Clubroom Goldlink Member
From: 058000780
MON 19 JAN 1987 22:18:09

GRAHAM....Last Night?????

You weren't around!! If you mean Saturday night..That was nothing, wait till this Saturday...There'll be about 20 or so of us at the Club, and we're planing

on logging on when we get back to the JACKAL's E.P.

Your bash this Saturday will be duely noted as soon as I get a moment to do it EP! I saw your message yesterday, you must have placed it Sat night then

*

GOLDLINK 6423868a 0c
NIX - The Amstrad Board Member
298151500
THU 15 JAN 1987 21:41:32

> 918919870, what kind of AMSTRAD have you got.

I've been on the NEMO but not the APPL E (qld) bbs.

Has anyone found a proper comm prog wth XMODEM transferral for the PCW ???

RUNNER

G thanx for the compliment.

Always a pleasure RUNNER!

*

GOLDLINK 6423147a 0c
Clubroom Goldlink Member

063003170
SUN 18 JAN 1987 15:56:00

> A-B-C. .1-2-3. Eric the \ a bee.....

I'd also want to buy a Fish Licence...

MIGHTY MOUSE

Just concentrate on getting that phone line for mousetex MM!

*

GOLOLINK

COM.STATION 642

New Boards, New Com Joks, More Speed!

Com Station 642 had a break over Christmas with only minimal updates during the period.

However we were back into it on 5th Jan and since then we have already bettered last year's usage averages!

The biggest news is the fast updates. These are accomplished using a program we've had written specially for us.

The effect is that instead of downloading one message every two minutes, we can now do eight per minute! A considerable improvement!

The biggest change for the users will be that it is now practical for users to 'camp' on one of the smaller boards to discuss a topic of interest.

Previously it was really only possible to do this on Clubroom because updates were so slow.

We have introduced a number of new boards, and as we get the new software under better control, expect to introduce even more!

The new boards include Homework Help, NIX - The Amstrad Information Network, The Travel Board, The Fishing Board, Martha's Psycho Analysis Board & the Numismatic Board (coin collecting).

This month we come one step closer to being able to provide software for download.

When it happens, the first programs will of course, be for the CoCo & for the T1000.

As we learn to handle files from other computers, we'll also offer limited software for those too (says he hoping!).

We've had a number of guest Com Joks to add to the team during the last month or so, the most memorable being Womabt, who, as part of his 'Wombat Over the East Coast' tour spent a night on Com Station 642, and in the so doing, really got things bopping along!

Thanks go too to the TYO's, Jeff, WOODROW, and ART for their support this month.

Last but not least, we welcome John, our newest permanent Com Jok. John lives here on the Gold Coast and we're sure you're going to enjoy what he has lined up for you on Com Station 642!

Sydney Bash

This was a small Bash compared with some of the others, but considering it was held just a day or two before Christmas, I was surprised that anyone came!

About 10 turned up at Luna Park in Sydney, and we were whirled on the rides & ripped off in the side shows at great speed!

Alby was very kind, she gave Katie one of her prizes.

We then went onto a pub to recover, but that night, Sydney was going through a touch of the Melbournes...everytime we arrived determined to rage on, they were just closing down!

Ah well... so much for having an unplanned Bash!! Next time we'll do it in the Domain!

Canberra Bash

Sally - a fellow train buff, organised the bash in Canberra and although only a few turned up, we had a great time. As I said previously, by this time I was in the clutches of one of the Sydney wogs, but we enjoyed the time, even if Wildebeest didn't turn up!

Brisbane Bash

The Brisbane Bash was attended by TNO & Molly, and judging from the comments on Com Station 642 the next morning, it must have been a thirsty night!

There were approximately 10 people there, at least one coming all the way from Sydney!

Martha was also supposed to attend, but when she heard that the TYO's were going, she determined not to go.

Even with out her, the evening was voted a success & thanks go especially to UFO for providing the venue!

Melbourne Bash

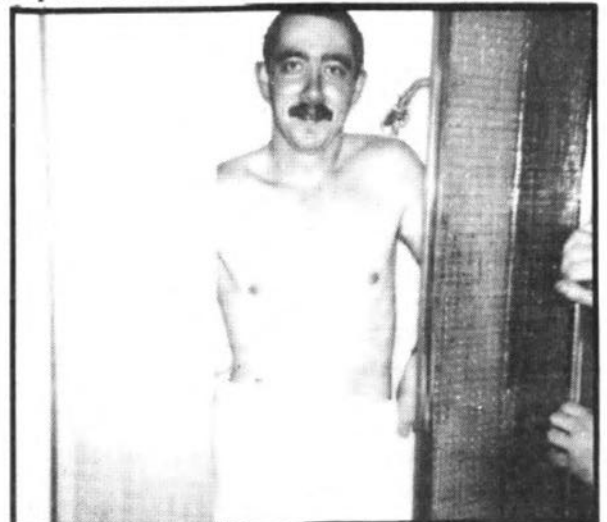
Melbourne is THE place for parties - it has to be because there's nothing else to do (that's what they told me in Sydney anyhow!).

RATBAG held the bash of the year with people coming from as far as Tasmania, SA & NSW!

How she coped with over 80 people in her little house I'm not sure, but they were there!

And I have to say both thank you for ALL the photos (all 205 of them from this bash!) and I'm sorry I can't print them all some of them on moral grounds!

As Viatelians know, I am planning to be in Melbourne in March. I'm sorry I can't give a date yet, it depends on how well we can bed in some new systems here, but I'm certainly looking forward to meeting what certainly must rate as the largest group of misfits in the entire country!



LETTERS

Dear Graham,

I would appreciate if you could help me on the following:

(a) What communications software would be required to equip my Tandy 64K ECB computer for use with a modem to link up with Viatel or other computer establishments? (I have access to a Send Data 300B modem and I have a disk drive attached.)

(b) What software program or equipment do I require to access and write machine language programs?

Hoping you can assist me with this information,

John Irwin,
Alger, QLD

John,

We recommend the CoCoTex software package for use with Viatel and with most 300 baud systems.

To access Viatel, you'll need a 1200/75 baud capable modem as well.

If you are going to be accessing 300 baud systems often, you may find that CoCoTex's buffer is a touch small at 4 K.

If so then the VIP system will provide up to 37 K.

Thanks to Netcom, many Bulletin Boards have been upgraded to utilise a modern 2400 baud modem and if you are purchasing bulletin board software you should check that your software will handle this capability - especially if you are going to be accessing bulletin boards interstate or overseas. (Of course under those circumstances you'll also need a 2400 baud modem!)

This all looks a bit scary, and I can well remember my own reticence to change from 300 baud to 1200/75, but I can assure you that apart from the fact that Communications is what computing will be about this year, you'll learn heaps, and you'll have a lot of fun! So I'd encourage you to get into com's, and enjoy!

Dear Graham,

I am writing to you for a number of reasons:

(a) I have a programming problem. I am writing a database program that will store a list of AGFACTS information sheets sent to us from the Dept. of Ag. The problem is that they are filed numerically, and I don't know how to make the computer arrange them in order of number.

ie: how can I get it to change 1,6,2,4,3,5 to 1,2,3,4,5,6 ??

(b) I wonder if it would be possible for you in a forthcoming edition to outline how to alter disk-based programs into cassette-based programs. Many of the programs that interest me in your magazines end up being for disk systems and if I knew how to make them work on my cassette system life would be that much easier.

Any assistance in answering the above questions would be greatly appreciated.

Michael Hartmann,
Guyra, NSW

Dear Michael,

To obtain a sort you use the "Greater Than" & "Less Than" functions.

Say you have 3 numbers stored in

Variables A\$(1), A\$(2) & A\$(3). Those numbers might be 64, 23, 44.

The following program should get them into order:

```
10 IF A$(1)>A$(2) THEN A$=A$(1):A$(1)
=A$(2):A$(2)=A$
20 IF A$(2)>A$(3) THEN A$=A$(2):A$(2)
=A$(3):A$(3)=A$
30 IF A$(3)>A$(1) THEN A$=A$(3):A$(3)
=A$(1):A$(1)=A$
40 IF A$(1)<A$(2) AND A$(2)<A$(3) THE
N END ELSE 10
```

Disk based programs almost by definition, are usually set up so that the user can save computer memory by storing what program & file is not being used on disk.

A tape based program differs in that we don't really want to access the tape anymore than we have to.

So whilst not impossible, as many of our authors keep showing us, most disk programs will need much modification to be of use in a non disk environment.

I'd rather suggest you look at the routines used to achieve a particular task and adopt that routine in a tape based program, because whilst the two types can look very similar - especially on screen, they run and are programmed quite differently!

Perhaps Johanna Vagg may have some hints for us all... she's really good at doing this sort of conversion (hint hint Johanna!)

Buy the way, any programs sent to us are kept for reference purposes and are then sent back after about six months. Many people who have previously sent tapes in will have already had their tapes returned along with 2-3 scratch tapes.

As for disk owners, you will receive your own disk plus two unformatted SSDD disks.

Please note, this is a job we do only twice a year at present.

I figure that you have to incant the ring before you can escape. My problem is that I can't find the right word to incant it.

Stuart Lobely
Wagga Wagga

Stuart. The Supreme Ring is the FINAL ring. Happy Incanting!!

Maurice

I am writing to find out a puzzling question in my adventure game Raaka Tu. The question is about how to cross the large oriental rug (which stretches from the north to south walls) to the door which has a sign saying "Do Not Enter". But the rug has a pit under it with spikes at the bottom.

Mr. L.A. Buck
Lanceton
Tasmania

Mr Buck. The door and the rug are two of what every good adventure game should have... Red Herrings. Extremely tempting but impossible to pass. However there is another way to get AROUND to somewhere behind the door.

Maurice

SCOREBOARD

Once again you can get tips for your favorite game, the one that you've been wracking your brain over for the last month.

Michael now works full time and couldn't update the scoreboard so I'm doing it to help him out. I'll be in contact with Michael and can still answer your letters.

Maurice Phillips

I am a keen player of Tandy's Dungeon Of Daggorath. I have managed to kill the real wizard. When killed, he drops a ring called the Supreme Ring. When I picked it up and wandered around the maze, all holes lead up but there are no ladders.

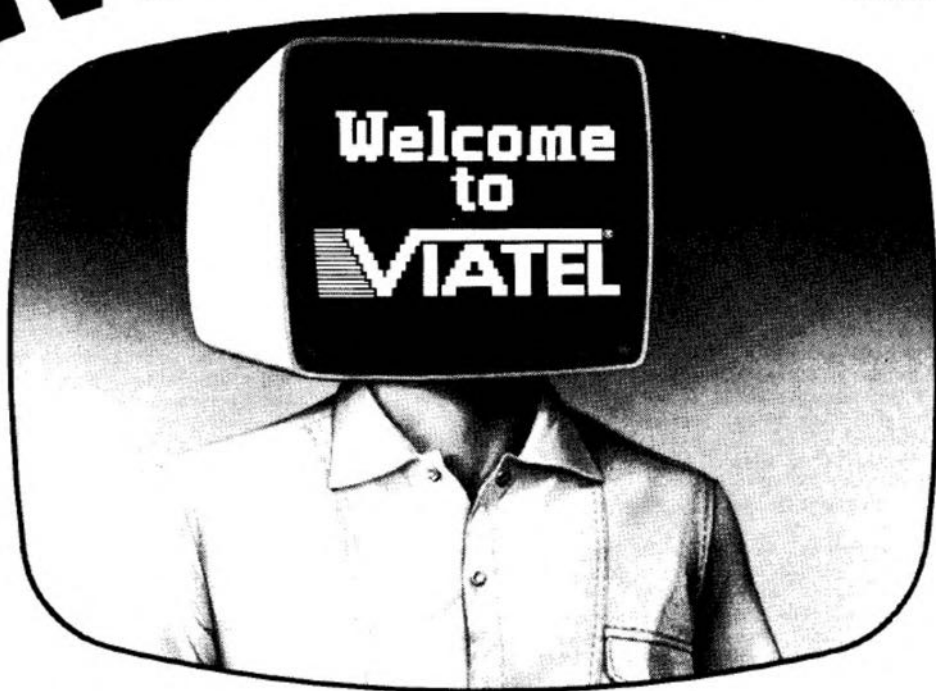
Here are some tips to get past the Serpent in Pyramid 2000.

1. Get the box and the bird God. (if you are holding the scepter you will have to drop it or the bird god will fly away)
2. Go to the serpent and THROW BIRD.

Maurice



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SCOREBOARD

ANDROME	DOODLE BUG	Sean Sheet	8800	Bernard Florence N.S.W.	647800
A. Voutsis Babinda	Wayne Kely Ipswich	MONTE ZOOMERS (Computer Hut)		Hazel McGuinness Coota	445100
A. Gates Macquarie	Leath Muller Townsville	Mike Driscall Bowen	27650	Michael Cowie Coota	132900
Jim Ramsden Cabramatta	Russell Lucas Kyabram	MOON SHUTTLE (Data Soft)		SCCEPTER	
ASTRO BLAST (Mark Data)	DOUBLE BACK (Tandy)	David Thurbon Canberra	27700	Ian Choat O'Connell	Won in
Mark De Wit Ipswich	Anne Marie Callow Ips	MR DIG		7 min. 47 sec.	
Wayne Kely Ipswich	highest grab	Leigh Eames Emerald	1132250	Ken Uzzell Roseville	Won in
Leath Muller Townsville	140870	MS GOBBLER (Spectral)		21 min. 51 sec.	
ASTRO LANDER (CoCo Software)	Ian Reynolds Prospect	Lynne Barrett Mutama	38770	SEA QUEST (Mark Data)	
R Boxall 4250	highest grab	Malcom O'Brien Coota	15500	J Dougan & J Gans	Bris 165
ATOM (Tandy)	The Caped Avenger Roma	Wayne Kely Ipswich	13760	J Holt	Glen Iris 150
Richard Baker NSW round.2 - Rh	highest grab	Yvette Barrett Mutama	12700	Darren Reed	Watsonia 100
David Thurbon round.1 - xe	DRACONIAN (Tom Mix)	NINJA WARRIOR		SHARK (Computerware)	
BAGITMAN	Mark De Wit Ipswich	Mark De Wit Ipswich	51500	Alan Mansfield Quoiba	90000
Ken Dunlop Verribee	Sean Murdoch Bringelly	Paul Conroy Brisbane	41500	C. Voutsis Babinda	52000
Wayne Dunlop Verribee	Wayne Dunlop Verribee	Stephen Price Brisbane	38700	SHENANIGANS (Mark Data)	
BASEBALL	EZSKI (Chomasette)	OUTHOUSE (Comp Shack)		J Gans	Bris 112
Sean Sheet 91	Wayne Kely Ipswich	Richard Pankhurst Rsvll	8126	Carla Miller	Burwood V 148
BEAM RIDER (Spectral)	David Aubrey 24056	PEANUT BUTTER PANIC		Wayne Kely Ipswich	100
Kieran Power Duffy	Chris Nagle Condobolin	Melissa Blackball NSW	152	SHOOTING GALLERY (Tandy)	
Tony Evans Bowen	FIRECOPTER (Adventure Intl.)	Melissa Gransden NSW	152	John Bollans	Perth 67320
David Thurbon Canberra	R Boxall 69152	PENGON		C Hinton & Q Hill	NSW 54310
BLOCKHEAD (Computerware)	FEMBOIS REVENGE	Michael Callow Ipswich	39750	Sharon Avery	Voy Voy 52700
Paul Harris Minto	Wayne Kely Ipswich	Chris Nagle Condobolin	36610	SKIING (Tandy)	
Grant Menner Parkwood	Tony Evans Bowen	PHANTOM SLAYER		Paul Conroy Brisbane	0:32:49
Michael Horn Gold Cst	Richard Pankhurst Rsvll	Russell Lucas Kyabram	140	Jack Rae	Mt Isa 0:36:00
BREWMASER (Tom Mix)	FLYBY (Chromasette)	PIEBALL (Tandy)		SKRAMBLE (Tom Mix)	
Hazel McGuinness NSW	David Coleman Yeronga	Ian Choat O'Connell	174950	Stephen Price Brisbane	101490
Wayne Dunlop Verribee	FROGGER (Tandy)	PIPE LINE (Rainbow)		Ian Choat O'Connell	90040
Lynne Barrett Muttama	Damien Ryan Riverhills	Wayne Kely Ipswich	1072	Michael Elliott Brisbane	72920
BUST OUT (Tandy)	Jason Ryan Riverhills	Leath Muller Townsville	978	SPACE ASSULT (Tandy)	
The Caped Avenger Roma	Patrick Van Brakel Prkvl122055	A. Gates Macquarie	811	Paul Harris Minto	40290
A. Voutsis Babinda	FROG TREK	S. Gates Macquarie	454	Nick Cooper	16949
20 Balls 7634	S. Gates Macquarie	PLANET INVASION (Spectral)		Darren Reed	Watsonia 10430
Richard Pankhurst Roseville	A. Gates Macquarie	Lachlan Mead Bomaderry	90450	SPACE RACE (Spectral)	
20 Balls 2490	Darren Reed Watsonia	A. Voutsis Babinda	85000	Stephen Price Brisbane	51375
BUZZARD BAIT (Tom Mix)	GALACTIC ATTACK (Tandy)	Michael Callow Ipswich	99400	Michael Horn Gold Cst	33875
Unknown 168500	Greg & Ian Choat O'Connell	POLARIS (Tandy)		Brendan Gay	Gold Cst 29400
Lynne Barrett Mutama	Ian Choat O'Connell	Ken Voight Ipswich	206700	SPACE SENTRY	
Sean Murdoch Bringelly	A. Voutsis Babinda	Michael Callow Ipswich	60750	Paul Harris Minto	2067300
CALIXTO (Mark Data)	Galax Attack (Spectral)	POLTERGEIST (Tandy)		SPACE SHUTTLE (Tom Mix)	
J Gans Bris 162	Wayne Kely Ipswich	Bernard Florence Croydon	4955	Lachlan Mead Bomaderry	515
CANYON CLIMBER (Tandy)	Steven Penzo Rye	Unknown 4955		Tony Evans Bowen	491
Groucho Roma	S. Gates Macquarie	Michael Elliot Brisbane	4895	Richard Pankhurst Rsvll	344
Michelle Avery Voy Voy	S. Gates Macquarie	POOYAN (DataSoft)		SPEED RACER (Spectral)	
CASHMAN (Comp Shack)	GHOST GOBBLER (Spectral)	Michael Popp Toowoomba	1400000	Leath Muller Townsville	93840
Wayne Kely Ipswich	Stuart Sanders 18510	Unknown 365400		Michael Horn Gold Cst	93520
Ane Marie Callow Ips	Ian Choat O'Connell	POPCORN (Tandy)		SR-71-281 (Tom Mix)	
Leath Muller Townsville	A. Voutsis Babinda	Chris Nagle Condobolin	290000	Simon Cox Dubbo	1 mile from Target
CAVERN COPTER (Rainbow)	A. Gates Macquarie	Allan Rae Mt Isa	56770	STARFIRE (Intellectronics)	
Richard Pankhurst Rsvll	GRABBER	PROJECT NEBULA (Tandy)		Andrew Law Sunbury	65000
1509	Lynne Barrett Mutama	Paul Simpson 540		STELLAR LIFELINE (Tandy)	
CHAMBERS	ICEBLOCK	Michael Horn Gold Coast	410	Paul Harris Minto	42110
Lynne Barrett Mutama	Richard Pankhurst Rsvll	Ken Uzzell Roseville	255	SUB HUNT	
57300	ICE CASTLES	PROTECTOR (Tom Mix)		Warren Macintosh Rsvll	5135
CHOPPERSTRIKE (Comp Shack)	Sean Murdoch Bringelly	Andrew Law Sunbury	165322	SANDS OF EGYPT (Tandy)	
Wayne Kely Ipswich	JUNIOR'S REVENGE (ComputerWare)	Steven Bullock Roseville	1589	Richard Pankhurst Rsvll	127 Turns
Ken Uzzell Roseville	Andrew Law Sunbury	PYRAMID (Tandy)		TEMPLE OF ROM (Tandy)	
25300	KATAPILLAR ATTACK (Tom Mix)	Simon Cox Dubbo	220	A. Gates Macquarie	484800
CLOWNS (Tandy)	Chrs Nagle Condobolin	Darren Reed Watsonia	220	Wayne Kely Ipswich	370100
A. Voutsis Babinba	Stephen Price Brisbane	J Gans Bris	200	Hazel McGuinness Coota	165400
83160	Steven Marks Yanco	QIXS (Spectral)		S. Gates Macquarie	162400
Vince Barrett Mutama	KING TUT	Hazel McGuinness Coota	97164	Michael Cowie Coota	100900
50690	Sean Murdoch Bringelly	Lynne Barrett Muttama	56172	TIME BANDIT (Michton)	
Lynne Barrett Mutama	Ken Uzzell Roseville	Micheal Cowie Coota	24672	Henry Roomes Millicent	289920
32310	LANCER (Spectral)	QUASER		Hazel McGuinness Coota	141170
COLOR CAR	Wayne Kely Ipswich	Richard Pankhurst Rsvll	87	Lachlan Mead Bomaderry	104670
Lynne Barrett Mutama	Paul Simpson Miles	RAAKATU (Tandy)		TOUCHSTONE	
117962	LASERVORM (Rainbow)	Mike Thayer Toowoomba	50	Paul Conroy Brisbane	69160
Yvette Barrett Mutama	Nick Cooper 58745	Simon Cox Dubbo	50	Mark Conroy Brisbane	61880
12061	Leath Muller Townsville	Richard Pankhurst Rsvll	50	Barnabas Hood Brisbane	60640
COLORPEDE	Glynn Catherall Gld Cst	RADIO BALL (Tandy)		TRAPPALL (Spectral)	
Wayne Dunlop Verribee	30366	Hazel McGuinness Coota	1300300	A. Gates Macquarie	113214
567201	LE MANS	Sean Sheet 1168800		Chris Nagle Condobolin	100244
David Abbey Verribee	Sean Sheet 49 Secs	Paul Harris Minto	1004950	Paul Harris Minto	62830
206534	A. Voutsis Babinda	Lynne Barrett Mutama	976540	TUT (Aardvark)	
CUTHBERT IN THE MINES	LUNAR ROVER PATROL (Spectral)	REACTOIDS (Tandy)		Keith Savage 99430	
Sean Murdoch Bringelly	Wayne Kely Ipswich	Georgia Voutsis Babinda	1200000	TUT'S TOMB (Mark Data)	
1995	L Vanjour & Q Hill	RETURN OF THE JET-1		Tony Evans Bowen	53280
CRYSTAL CASTLES	Wayne Dunlop Verribee	Bernard Florence N.S.W.	272167	Barry Tomkinson Tregear	29840
Unknown 534297	MEGABUG (Tandy)	Lloyd Golato Gold Coast	152996	Alex Hartmann Gold Cst	24680
DANGER RANGER	Anne Marie Callow Ips	ROBOT BATTLE (Spectral)		VIKING	
Yvette Barrett Mutama	Lori Lebane Penrith	Michael Horn Gold Cst	9300	Ken Uzzell Rsvll	King in 16 years
625	A. Voutsis Babinda	Alex Hartmann Gold Cst	4900	WHIRLYBIRD RUN (Spectral)	
DEFENSE (Spectral)	MICROBES (Tandy)	R Boxall LO/4850		Lachlan Mead Bomaderry	94200
Paul Harris Minto	A & S Cates Macquarie	ROMAN CHECKERS		Eddie Driscall Bowen	81300
47255	212760	Chris Nagle Condobolin	62	Leath Muller Townsville	61800
Michael Horn Gold Cst	Andrew Vyllie Somerset	Richard Pankhurst Rsvll	60		
43650	185550	SAILOR MAN (Tom mix)			
Richard Pankhurst Rsvll	Paul Harris Somersset				
31730	140700				
DEMON ASSULT (Aardvack)	MONSTER MAZE (Tandy)				
Paul Harris Minto	Ian Reynolds Prospect				
2076600	250840				
Richard Pankhurst Rsvll					
31250					
DEMON SEED (Comp Shack)					
Ken Uzzell Rsvll					
11350					
DEVIL ASSULT (Microdeal)					
Kirsten Anderson 179700					
Hazel McGuinness Coota					
173900					
DEVIOUS (Spectral)					
R Boxall 28820					
DONKEY KING (Tom Mix)					
A. Voutsis Babinda					
315000					
Stuart Sanders Mt Hwthrnl13100					

MICO NEWS

Editor Jim Rogers

APPRECIATION

Thanks go this month to Chris Deacon for the variety of programs which he has submitted and also for the way in which he has taken trouble to prepare the tape and the way in which he has laid out the comments on each program.

WE ARE ABOUT to see great changes to CoCo and Aust Rainbow magazines commencing with the March issue. Graham will have given you the full details of the change but briefly the Aust. Rainbow will be replaced by the new CoCo and the new magazine, Softgold, will take the place of CoCo.

This means that now we will look for our MC10 content in the new Softgold in the future and with the changeover we will, hopefully, have much more space for MC10 articles, news and programs.

In additional new items this month, Scott Ferrero will starting the ball rolling by submitting his thoughts:

It is that time of the year again with Christmas over, and the holidays finished and a lot of people are considering chucking out their MC10 and upgrading. STOP before you do and let us consider a few things. I am not saying don't upgrade but don't leave your MC10 there to rot in a cupboard.

What has the MC10 got going for it to keep it alive? Well for one thing it has a fantastic group of fans, including yourself. Then there are people like Grahame Pollock, Frank Rees, Gary Furr, John Dyer and the list could go on and on. If your name has been printed in MICO then you are also one of them.

So what has all this to do with upgrading to a CoCo? Well as I said before, get the upgrade if you feel it is necessary, but don't, whatever you do, forget about your MC10!! This little machine has a lot going for it, even more now that the disk drive is about to burst upon us, remembering that the disk drive is compatible with the CoCo.

Thus the main point of this article is: DO NOT FORGET YOUR MC10. I know some of you will most likely be saying, "What use do we have for our MC10 now that we have our new CoCo?" Well I'll tell you why!!

If we disregarded all out of date equipment the whole world would be in trouble (not that it isn't now) and we would have an enormous pile of defunct equipment. What about the things you learnt on your MC10 - why not pass it on to others? Grahame Pollock is a prime example of this. He upgraded to a CoCo long ago, but did he forget his MC10 mates? Not on your life. He went on programming with the MC10, teaching and sharing with others. And he's still doing it!! After all isn't that what our computing is all about? If you don't agree with this I would

be glad to hear from you via this magazine. It is my personal belief that this is what life is all about.

If you are still going to discard your MC10 after all this, why not donate it to charity. I am sure some person in this world is willing to have it and learn from it. I have learnt a lot about my MC10 and it has taught me a lot about myself that I didn't realise.

Anyway I will let you get back to your computing.

Yours in computing
Scott Ferrero.

What more is there I can say?



RANDOM NUMBERS by Scott Ferrero

AS YOU ALL know most computers have some kind of random number generator or, at least that is what the manufacturers would have us believe. Most of us know that this is not the case but that inside the computer is a list of numbers from which the random elements are read. The way in which this is done on the MC10 is as follows. When you type the random function on the MC10 you have to define a maximum value, & it is assumed that 1 is the minimum value. Within your ROM address \$4218 and \$421A are the two random seeds used during the finding a random number. Basically the seeds are simple pointers to a table of elements for the random function. Upon power up these seeds are set to the same value every time. This means you will get the same numbers each time if it is straight after power up. In reality this is not very random at all. If you dont believe it just try it.

TURN MC10 ON
Type the following

```
10 FOR X=1 TO 4
20 PRINT RND(10):NEXT
```

Lo and behold you will have the numbers 5,4,2,7. How did I know that? Very simple, I typed the program on my computer upon power up and got that result. In fact every MC10 around will give the same result if the same procedure is followed. This will hold true only for ROM 1.0 but other versions will be slightly different depending on where the pointers are pointing. Now we have discovered that the computer has set pointers to show where to pick up its random number so if we could somehow set these pointers we might be able to simulate randomness. In fact within MICROSOFT BASIC 1.0 there is a way to set these seeds. Just try this.

```
PRINT RND(-3)
```

You should get an answer of 0.272222849 if you have just powered up. Now with the above type in
FOR A = 1 TO 10: PRINT RND(100):NEXT

The numbers you get will be 61,23,70,4,94,72,50,77,22,31.

This is if you have typed in the PRINT RND(-3) first. Not everything affects the pointers but believe me a lot of things do. Even without a cold start I'll bet you will get the same result. The reason is that PRINT RND(-3) sets the pointers to a particular memory block. Well now that we know about seeding etc perhaps we can start looking at a method of achieving true random numbers. We know

that when we use the RND function with a negative value inside brackets it sets the pointers. So we have to find a way of setting the pointers with a certain random element. Could we use time as the random element as do CoCo owners to try to simulate true randomness? What memory location in the MC10 has relation to time? A quick glance at MICO EXPOSED shows the location \$09 is time related so let us use that to seed our random function. PRINT RND(-(PEEK(9))) I cannot predict the result as location \$9 changes all the time but once the seeding is set with the above method you can use conventional methods to find you numbers. Make sure you set the seeds after every number you find otherwise you are back to the old situation. If you want true random numbers between, say, 1 and 100 you would use the following method

```
10 C = RND(-(PEEK(9)))
20 PRINT RND(100):GOTO 10
```

This sets the seed, finds one number, then resets the seed and finds another in a continuous loop. When you use this method make sure you reset the seed, if not after every RND then after every few.

GUIDE TO BETTER GRAPHICS ON THE MC-10

System Requirements:- MC10 20K plus ROM1.1 or better.

SO WHAT IS THIS article all about? Well it is on drawing circles and waves on the MC10. The idea came about from reading "Variations on Pye" by Michael Bell (Nov 86) and Help by Justin Lipton (Oct 86). Both of these articles are top stuff, even for MC10ers.

The program listing below is relatively simple although I struck one trouble when I wrote it. I am in year 11 and do Maths 11 and Maths 1 but still I made a blunder with the circle formula! In actual fact I had the formula right but I used the wrong units for the angles. I had the program using degrees while the MC10 uses radians. Boy what a mistake! There I was trying to find why the sine of the numbers was different to what I thought it should be. Then I remembered the MC10 maths function is in radians and not degrees. What ever you do dont make the same mistake. It is very embarrassing, not to mention frustrating. Just before I figured out what I was doing wrong I was ready to throw the MC10 out the door!! Anyway on with the program itself.

```
0 REM          SCOTT FERRERO  NOVEMBER 1986
1 REM          MUST BE USED WITH ROM 1.1
10 POKE36782,116
12 REM CLS
13 X=28672-14
14 CLEAR 25,X 15 X=28672-14
16 FORZ=XTOX+13
17 READA
18 POKEZ,A:NEXT
19 POKE20501,126
20 POKE 20502,INT(X/256):POKE 20503,X-INT(X/256)
  #256
21 GOTO 23
22 DATA 206,64,0,134,0,167,0,8,140,76,0,38,
248,57
23 SOUND100,1:Z=USR(0)
25 FORL=0TO359
26 B=L/57.29577951
27 C=SIN(B)
28 D=COSIN(B)
29 REM MAIN FORMULA FOR ALL LINES ETC FOLLOWS.
```

```
30 X=INT(64+30*C)
31 Y=INT(100+54*D)
32 IFX 0 THENX=0
33 IFX 127 THENX=127
34 IFY 0 THENY=0
35 IFY 191
36 X1=INT(X/8)
37 X2=X-(X1*8)
38 P=(16*Y)+X1
39 P=P+16384
40 Y3=2(7-X2)
41 X3=INT(X3)
42 P1=PEEK(P)ORX3
43 POKE P,P1
44 NEXTL
45 GOTO 45
```

Well there it is, relatively short and produces a nice circle. When I have achieved better resolution 256*192 it will be better still. See my UNI-DOS article for more information on better resolution.

The circle is drawn in 128*192 one colour mode. If you wish to change the shape of the circle alter the value that is multiplied by C or D in the equations. For example try these:-

```
30 X=INT(64+30*C)
31 Y=INT(132+30*D)
```

It gives a more elongated circle.

This one gives a smaller circle.

```
30 X=INT(64+15*C)
31 Y=INT(132+30*D)
```

This one gives an ellipse

```
30 X=INT(64+15*C)
31 Y=INT(132+20*D)
```

Alter line 6 to FOR L=0TO127 And try these two

```
30 X=L
```

```
31 Y=INT(SIN(X*6)*6)+100
```

That gives a sine wave

This one gives the graph of the TAN function (a weird one)

```
30 X=L
```

```
31 Y=ABS(INT(TAN(X))+100)
```

These are just a few examples and the possibilities are endless. If you want the circle in a different position, alter the first number in the equation X= and Y= . In all have fun and explore the possibilities of what can be achieved. Just think, it won't be long before you will have increased resolution and with better graphics commands. Bye for now and Happy Computing. The MC10 lives on!! Perhaps Jim was right and Tandy may just bring out an enhanced version of the MC10! I know I would be buying one!

by Scott Ferrero



HELP:

TAKING THE FIRST SIMPLE STEPS TO LEARNING BASIC

CHRISTMAS CRACKERS

by Ros Mahoney

Well, here in the west we take things pretty easy. (most of the time) Even christmas is laid back and steady. Well, almost. The CoCo Santa missed our place, but just as well. We must learn to use our present equipment before we purchase more!

We have been inundated with visitors for weeks now and haven't experimented with any programming or hacking etc. We have though, spent many hours crowded around our screen playing card games and adventure games (which more than often turn the brain to jelly after more than an hour). The arguments flew back and forth and 99% of the time the CoCo won the points anyway!!

When we ran educational programs, the children were banned from the keyboard so the adults could try to trick Big Bird. (Talk about small things amuse small minds!)

Now it has all settled down and the visitors have gone their own way, I can think about

planting my bottom on a chair strategically positioned in front of the CoCo. (I am seriously considering putting a deadlock on my door for the times that I want to be alone with my CoCo!)(Why not? Everyone else does! G.) With school holidays here, my sincere thanks go to Johanna Vagg, amongst others, who have kept me sane and amused my children when all else has failed. My basic studies are progressing well and my daughter Jessica is learning with me. In a few years time, Graham's job may be threatened by her!! (Children soak up knowledge like little sponges with food and drink coming a close second.)

Thanks for the helpful hints for new users. They save a lot of pain and suffering. I hope you all had a lovely Christmas. (I'm sure the elves had plenty of orders for software etc.) My family and I wish everyone a prosperous New Year and Keep On Computing.

Cheers!

LETS WRITE A PROGRAM

by Tom Lehane

THE PROGRAM WE WILL write is one designed to help the user select those 6 lucky LOTTO numbers. There are many programs around that do this job, and to write another on the same theme may seem pointless. However, in this article we will cover the building of a LOTTO number selector and in doing so discover two problems associated with this type of program.

The tricks used to solve them can be utilised in other programs that require the selection of a number of items, card games, dice or word games just to name a few.

First type this small 7 line program in and run it a few times.

```
10 CLS
20 FOR X=1 TO 6
30 L=RND(40)
40 PRINT L;
50 NEXT X
60 INPUT"PRESS ENTER FOR ANOTHER SELECTION";Z$
70 GOTO 20
```

The first noticeable problem we get is two numbers the same on odd occasions. Some programmers would refer to this as a bug in the program. Computers follow instructions, and there is no bug in our 7 line program. Our program instructed the computer to select 6 random numbers from a possible 40.

Label the number L and print the answer. Each time through the FOR / NEXT loop our computer picked a number from 40 and it can be expected that picking

a random number from the same numeral value 6 times, one of the numbers will be duplicated on odd occasions. How can we fix the problem?

Remember our array (DIM(#) statement) from the other LETS WRITE A PROGRAM where we compared the array DIM W\$(15) to imaginary small boxes. The same can be done with our LOTTO selector. This time we'll get the computer to reserve 40 imaginary boxes into which the numbers 1 to 40 will be placed. The statement for this is DIM L(40), L is the label for our array (boxes) and 40 is the number required.

The label for our array is assigned the letter L without the \$ dollar sign this is because we are using numerals and not strings as we did in the program REVERSE from the last LETS WRITE A PROGRAM. To enter the 40 numerals into our array L(40), we use the FOR ? NEXT loop.

```
20 FOR X=1 TO 40
30 L(X)=X
40 NEXT X
```

The variable 'X' is incremented by one each time through the loop. X equals 1 the first time so the array (our box) L(X) is labelled 1 and in L(1) is placed the number 1, then X equals the value of 2 when it goes through the FOR / NEXT loop and in L(2) the number 2 is placed. This identifying of each array with its respective number label L(#) and placing a number into each, continues until the FOR / NEXT loop has completed its function.

After filling our imaginary 40 boxes with the

numbers 1 to 40 we can manipulate them so that once a number has been selected by RND, that particular number can't be repeated.

To prevent the number from being selected more than once we place a zero into the array after it has been chosen.

Our program listing will now number from 5 to 100. After filling our array we move onto lines 50 - 100

```

5 CLS
10 DIM L(40)
20 FOR X=1 TO 40
30 L(X)=X
40 NEXT X
50 FOR S=1 TO 6
60 X=RND(40)
70 IF L(X)=0 THEN 60
80 L(X)=0
90 PRINT X;
100 NEXT S
    
```

Line 50 is another FOR / NEXT loop to select 6 RND numbers. Line 60 selects a RND number from 40 and a check is made in line 70, it tests IF the relationship is true. In other words IF the array L(X), X being the variable assigned by RND, has a zero in this array, then GOTO 60 (go back and select another random number).

In line 80 we place a zero into this array L(X) so it won't be repeated next time around. Now we can print the value of X with confidence.

Line 100 next s (return to complete the FOR / NEXT loop) I will cover the function in simple terms using our imaginary boxes (array DIM L(40)).

Let's suppose random picked the number 36, in our box labelled L(36) is the number 36.

Line 70 checks to see if box L(36) equals 0 (zero) the answer is no, it has the number 36.

Line 80 places a 0 (zero) into box L(36), this is OK as the computer knows the value of X is 36 and moves on to line 90 and prints the answer. The value of x (36).

Line 100 NEXT S returns for another random number. RND picked 36 once again and when line 70 checks if box L(36) equals a 0 (zero) the answer is yes because we placed a zero there when it passed the last check. Now that box L(36) contains a zero it's returned for another RND number and can't proceed to

line 90 until the RND selected box L(X) contains a number.

That's solved problem number one. What's the second one? This one concerns the random statement. Switch off the computer, wait a second and switch it back on again.

From a cold start type PRINT RND(40) and enter. My answer was 20 and it's a good guess your number was the same.

Do the same again, switch off and on. Type PRINT RND(40) and enter. What number have you got? Yes the same as last time.

Try a few more more numbers from a cold start. Notice that your answer is just about half the random integer. So every time someone loads our LOTTO selector and runs it, they will get the same numbers.

On a cold start COLOR BASIC's RND seed value is set by the timer. Extended COLOR BASIC can use X=RND(-TIMER) at the start of a program and this scrambles the RND seed (timer).

To make our program work correctly with EXTENDED COLOR BASIC, COLOR BASIC and the MC-10 we need to find another way around this problem.

The following method I prefer to use as it can be easily explained and remembered by new users.

At the start of a program you can have the instructions or a title and use the INKEY\$ statement to wait for a key to be pressed. Inside our ... IF INKEY\$="" we have random working waiting for the user to press a key. Let's look at this in a program...

```

1 PRINT"LOTTO SELECTOR
2 PRINT"PRESS ANY KEY TO START"
3 A$=INKEY$:IF A$="" THEN X=RND(40):GOTO3
    
```

In the above example line 3 waits for a key input - if no key is pressed then X=RND(40) and is sent back to the beginning of line 3 and continues to RND(40). As no user can press a key a precisely the same time on running the program time RANDOM will always be unpredictable and you get a true RANDOM start to your program.

The others that scramble RANDOM are X=RND(-TIMER) for Extended Color Basic and POKE280,PEEK(275).

The accompanying program 'LOTTO 86' uses our program tricks and demonstrates how to dress up the routine.

The Listing:

```

0 GOTO10
3 SAVE"136:3":END
10 REM BY TOM LEHANE
20 REM FOR COCO 'HELP' PAGE
30 CLSO
40 B$=CHR$(128)
50 PRINT@448,CHR$(141)+CHR$(142)
;
60 PRINT@481,CHR$(133)+CHR$(139)
;
70 FOR Y=2 TO 5
80 SET(16,Y,7):SET(22,Y,7):SET(2
5,Y,7):SET(29,Y,7):SET(35,Y,7):S
ET(39,Y,7):SET(42,Y,7):NEXT
90 FOR X=16TO19
100 SET(X,5,7):NEXT
110 FOR X=23TO25:SET(X,2,7):SET(
X,5,7):NEXT
120 FOR X=27TO31:SET(X,2,7):NEXT
130 FOR X=33TO37:SET(X,2,7):NEXT
140 FOR X=39TO42:SET(X,2,7):SET(
X,5,7):NEXT
150 FOR X=42TO52:SET(X,8,8):SET(
X,13,8):NEXT
160 FOR Y=8TO13:SET(42,Y,8):SET(
53,Y,8):NEXT
170 FOR X=6 TO 56
180 SET(X,16,6):SET(X,21,6)
190 NEXT
200 FOR Y=16 TO 21
210 SET(6,Y,6):SET(56,Y,6)
220 NEXT
230 FOR Y=16TO21:SET(6,Y,6):SET(
56,Y,6):NEXT
240 PRINT@161,"computer";:PRINT@
171,"selection";:PRINT@188,"box"
;
250 PRINT@425,"another"B$"select
ion";
260 PRINT@492,"enter"B$+B$"y"CHR
$(124)"n";
270 PRINT@292,"PRESS ANY KEY TO
START";
280 IF INKEY$="" THEN C=RND(40):
GOTO 280
290 GOSUB 600
300 DIM L(40)
310 FOR X=1TO100
320 PRINT@182,RND(40);:NEXT X
330 FOR B=182 TO 185
340 PRINT@B,B$;:NEXT
350 FOR X=1TO 40
360 L(X)=X
370 NEXT X
380 PRINT@292,"";
390 FOR X=1TO6
400 C=RND(40)
410 IF L(C)=0 THEN 400
420 L(C)=0
430 SOUND RND(240),1
440 PRINTC;
450 NEXT X
460 A$=INKEY$:IF A$=""THEN 460
470 IF A$="Y"THEN 500
480 IF A$="N" THEN 520
490 GOTO 460
500 GOSUB 600
510 RESTORE:GOTO 310
520 CLSO
530 FOR X=1 TO 100
540 S=RND(500)
550 POKE1024+S,36
560 NEXT X
570 PRINT@299,"GOOD LUCK";
580 GOTO580
590 S=RND(0)
600 FOR C=292 TO 315
610 PRINT@C,B$;
620 NEXT
630 RETURN
    
```



FACTORIAL

THIS PROGRAM is designed to give factorials to very high numbers such as 10000 (10000 takes about half an hour to compute) and you must remember that the factorial of 69 = 1.7112245e+98. This program will run in all sizes and models of the Color Computer and also the MC-10, just follow the instructions on the screen and all will be well.

by L.W. Thurbon

16K ECB
APPLICATION

The Listing:

```

0 GOTO10
3 SAVE"FACTORIAL:3":END
10 ' FACTORIALS TO 1 MILLION.
    (C) PIXEL SOFTWARE 9-6-86.
    BY L. W. THURBON.
20 CLEAR0: CLEAR200:CLS0:PRINT@33
," ENTER YOUR FACTORIAL NUMBER "
;:PRINT@97;:INPUT"";N:PRINT@126
,CHR$(128);CHR$(128);
30 F = LOG (1)/LOG(10)
40 FOR Z = 1 TO N
50 F =F + LOG (Z)/LOG(10)
60 NEXT Z
70 E = INT (F): M = 10^(F-INT(F))
80 IF E<3.2 THEN FC=M*(10^E):FC=
INT(FC)
90 IFE<3.2 THEN130
100 PRINT@161,"THE FACTORIAL N!
OF ";
110 PRINT@225,"";N;" = ";:PRINT@
289,M;"E+";E;
120 GOTO140
130 PRINT@193,"THE FACTORIAL N!
OF";N;"=";FC;
140 PRINT@484," PRESS ANY KEY FO
R NEXT ";
150 A$=INKEY$:IF A$="" THEN150
160 GOTO 20
170 END
    
```



SCOREBOARD

From P 17

WILDCATTING (Image Producers)		EGGS	
Anne Marie Callow	Ips 42796	David Hill	Oakville 5455
Colleen James	Gold Cst 39169	Justin Vestley	Dapto 1060
R Boxall	34692	FLIP	
ZAKSUND (Elite)		Jeanette Hill	Oakville 2980
Leath Muller	Townsville 412850	Terrence Hill	Oakville 1460
Nick Cooper	136050	NICOMANIA	
Jeff Vetzig	97100	David Hill	Oakville 5180
ZAXXON (Tandy)		John Badman	Oakville 1260
Russell Scott	Traralgon 144100	MISSILE	
Mike Fitzpatrick	S.A. 118700	Juliette Hill	Oakville 80
The Caped Avenger	Roma 128600	David Hill	Oakville 70
ZONX (Australian Rainbow)		Jeanette Hill	Oakville 60
Mark De Wit	Ipswich 17900	SALE OF THE CENTURY	
David Aubrey	15900	Jeanette Hill	Oakville 145
Wayne Kely	Ipswich 16900	Juliette Hill	Oakville 25
MICO GAMES		SKIER	
BREAKOUT		David Hill	Oakville 50
David Hill	Oakville 3176	TYPING ATTACK	
Justin Vestley	Dapto 968	David Hill	Oakville 79930
BOMB RUN		Juliette Hill	Oakville 4320
David Hill	Oakville 1300	WORM CHASE	
Juliette Hill	Oakville 400	David Hill	Carina 123270
CATCH		John Badman	Oakville 12300
David Hill	Oakville 100	Justin Vestley	Dapto 3990
COMPUTER CRICKET		T1000 GAMES	
David Hill	Oakville 86	DEMON ATTACK (Tandy)	
Nathan Hewitt	Vindsor NSW 75	Roger Heath	Leeton 32210
Juliette Hill	Oakville 55	Jenny Dutton	Carina 1120
DEMON'S DEFIANCE II		CONQUEST	
David Hill	Oakville	Roger Heath	Leeton 102360
	Level 3 5550		
Juliette Hill	Oakville		
	Level 8 5000 (Note: Most non-Tandy games are		
Allison Clarke	Oakville available from the Computer Hut		
	Level 1 5025 in Bowen, Qld, or their agents).		

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See Clubroom for details

AUSTRALIANS SHOULD ENCOURAGE EXCELLENCE

by Monique Bond

WHAT IS A GIFTED CHILD?

The mention of 'gifted and talented' children always seems to provoke a strong reaction. Why should the group of children defined by the Queensland Education Departmental definition as

'those who because of above average abilities, creativity and task commitment, perform or are capable of performing at a high level'

provoke such intense emotions.

One major reason is the strongly held view in many societies that 'gifted children are lucky already, they need no different treatment ...'. Another strongly held view is that to cater for any children who are gifted is elitism.

Strangely enough, there are some gifted children in Australia who do receive strong community support - they get permission to leave school to get special coaching - in fact sometimes the whole school gets the day off to cheer these children. The state and commonwealth governments subsidise the expenses of the associations who train the children and support the cost of their training venues and overseas competitions. These children are, of course, our athletes.

What is the story for children who are talented in other areas? Are all gifted children as easy to spot as they shine out like bright beacons at home and at school? Unfortunately no, it is not that easy.

MARK & BARBARA

Take the case of Mark, who went to school reading fluently. No-one ever asked him whether he could read, so he sat day after day doing pre-reading readiness and then very slowly working his way through the very beginning stages of reading. At the end of the year, his teacher told his mother that she was concerned about Mark, who she thought might be developmentally retarded as he still was making no progress at reading. It took a great deal of discussion for both mother and teacher to realise that something rather dramatic had happened to Mark.

There are now significant numbers of children coming into our schools reading fluently and, although many schools are acknowledging this and catering differently for these children (not all of whom are necessarily gifted in other ways), too many schools are just not making any concessions to the children's existing knowledge.

Another child, Barbara, was 13 years old. She had always done extremely well at school and really enjoyed her music and also her mathematics. As she got into her teens she found that whilst it was almost acceptable for her to do well at music and play in the school band, etc, shining at Maths was less acceptable. In spite of the pleas of her teachers, she started to do less well at Maths and Science until her marks were similar to those of her friends. It meant that she was unable to do Advanced Maths in Years 11 and 12 and greatly restricted her choice of career and options in later life but she still had her music and she had her group of friends and, in her mid-teens, peer group pressure really counted.

These two cases are characteristic of a significant number of children who should be achieving extremely well in one or more areas and who for a variety of reasons, are not achieving at all well. The problems are not restricted to girls, nor is it a case of the State System being less good than the Independent. We have as many gifted underachievers, including some drop-outs coming from both state and non-government schools.

WHAT DO THE CHILDREN NEED?

So, we really need to consider what are some of the characteristics of gifted and talented children and what might be some of their needs. Once we realise that we are in fact talking about 5 to 10% of the population who might be particularly able in at least one area, and we look at the great variety of abilities they might have - dancing, thinking, planning, solving mathematical problems, finding new ways of solving technical problems, drawing in various ways, talking, writing, playing music, designing computer software - the list is almost endless, it makes you wonder if there can be any common threads which can be used in planning for the children.

There does seem to be some common ground for most people. They must have an interest in, and a commitment to, their area of talent; they nearly always need some contact with other people working in the same area; and they need to be able to work at their own pace.

It appears to be easier, or at least more acceptable, to meet these needs for athletics and musicians than for scientists and problem solvers. There is not much disagreement about letting a sprinter run as fast as possible or letting a violinist tackle any works which he or she seems capable of playing from a technical and also musical standpoint. However, there seems to be enormous resistance, amongst parents and teachers, to letting children who are very able in mathematics to progress as fast as they wish; to allow children to read the books they are able to understand, to work at the level and pace which they are capable of.

WHAT ARE THE SCHOOLS DOING?

Slowly, very slowly, this situation is changing and in virtually all states of Australia some schools are beginning to cater for gifted children. In Western Australia, a State Education initiative has led to a number of children attending high schools which attempt to cater for children with outstanding abilities.

An excellent feature of this provision is that the children are treated as individuals and are encouraged to work at different levels in different areas so that a 14 year old might be working at university level in certain areas and at year 11 & 12 for others.

In Queensland, Center of Artistic Development are developing courses which use the professional artistic expertise of people working in the arts.

In Victoria the Mentor program is matching up very able children with adult experts.

All states are attempting various ways of catering for the children in a way which will meet both their immediate need for friends and normal social development and their long term needs to develop their abilities and their integrated personalities as people who do have significant abilities. It is still very inadequate and often very patchy - far too dependant on the views of the individual teachers and principals.

CAN COMPUTERS HELP?

There has been considerable interest in most states in the use of computers as a way of individualising learning for some gifted children. Whilst there is evidence that many gifted children really enjoy using computers, both as word-processors and to enhance their work as problem solving tools which can be programmed, the educational software currently available is limited by the imagination and ability of the software writers.

WHAT ABOUT PARENTS?

For parents, the undoubted joy of having a child of considerable ability is sometimes is rather spoiled by the problems that can ensue. Even if you are able to stimulate your children so that their thirst for knowledge, or music, or cricket, is met, you still have a very difficult balancing act to perform.

On the one hand you are trying to raise a rational, balanced human being who will take his or her place in society as a responsible citizen.

On the other hand you have a child who appears to be exceptional in some ways, who has needs which are different from those of your neighbors' children, who perhaps sees things slightly differently from other children and other people.

If you are lucky enough to have an athlete or a musician in the family, you, will at least have a great deal of social support, encouragement and praise from your family and some clear goal setting from teachers or coaches. If you have made the mistake of having a child or children who are academically gifted you may have some difficulty.

You are unlikely to know just how gifted your child is, (an IQ test may give you some clues but nothing about how fast he/she can sprint the 100m) so you are in a very difficult position when you try to discuss with the school whether the child needs any special provisions.

There are many ways that your child could be encouraged to develop. He or she might need very little extra except for an emphasis on open-minded questioning, problem solving and the opportunity to spend two hours a week with other gifted children. On the other hand, maybe the child should be spending one day a week with an expert in the field. Is the child gifted in several subjects? Should he or she be covering a lot of ground faster or a reasonable amount of ground in more depth? Creativity is considered to be vitally important - how can that be encouraged?

CONCLUSION

Many people are trying to find the answers to these questions. For parents and teachers of gifted children, there are associations in most states, where they can get advice and encouragement. Education systems are also becoming more actively involved and there are some signs that the community is gradually becoming more acceptable of excellence in many different areas.

For the children themselves, a more enlightened community attitude and increased support at school and at home should make it more possible for most of them to develop their areas of talent and to feel that their contributions to society can be as accepting as the gold medals at the Commonwealth Games.

(Monique is President of the Queensland Association for Gifted and Talented Children, a group we intend to support in 1987 with an information service on Goldlink.

Monique invites anyone who wants to discuss this subject further with her to contact her at:



QAGTC
P.O. Box 121
ASHGROVE, QLD. 4060.

Graham.)



Temperature Chart

by Harry Hoffman

APPLICATION

TEMPERATURE CHART WAS designed to record daily temperature changes, the idea being to keep them as a record for future reference, if you ever have, or are, in such a situation.

After RUN-ing the program, you are asked the date. Here you must input the date as 'Month', 'Year' (eg 'dec,1986'). Press ENTER and you are asked for a grid overlay. Answer 'Y' or 'N' and the program will continue.

After you input all the information on the graphics screen, the computer will then save the data as a data file, ready to run. For example, if you type in the temperatures for the month of December, the program will save all the data as "dec/tem" which you can then later run as a separate program.

I hope someone finds use for it.

The Listing:

```

0 *****
1 *   TEMPERATURE GRAPH *
2 *   BY *
3 *   HARRY HOFFMANN *
4 *   MS 582 *
5 *   TOOWOOMBA 4352 *
6 *   QUEENSLAND *
7 *   NO COPYRIGHT *
8 *****
9 GOTO20
10 SAVE"127A:3":END
15 END
20 CLEAR2000:DIND$(200)
30 ONBRKGOTO2260
40 CMP
50 WIDTH40
60 CLS4
70 GOSUB560
80 ATTR2,0
90 LOCATE10,4:ATTR3,2,B:PRINT" T
EMPERATURE CHART";
100 LOCATE18,7:ATTR2,0:PRINT" BY

```

```

";
110 LOCATE12,10:ATTR2,1,B,U:PRIN
T" HARRY HOFFMANN";
120 LOCATE14,13:ATTR2,0:PRINT" T
OOWOOMBA";
130 LOCATE15,17:ATTR2,1,B,U:PRIN
T" any key";:ATTR2,0
140 EXEC44539
150 POKE65497,0
160 WIDTH80
170 CLS3:ATTR4,5
180 FORX=0TO79STEP2:LOCATEX+1,0:
LOCATEX,1:LOCATEX,23:LOCATEX+1,2
2
190 PRINT"";:NEXTX
200 FORX=3TO21STEP2:LOCATE0,X:LO
CATE1,X-1:LOCATE79,X-1:LOCATE78,
X
210 PRINT"";:NEXTX
220 FORIN=1TO217
230 READI,J
240 LOCATEI,J
250 IF IN=217 THEN GOTO 280
260 PRINT"";
270 GOTO 290
280 PRINT"Y/N";
290 NEXTIN
300 DATA 20,5,20,6,20,7,20,8,20,
9,21,6,22,7,23,8,24,9,24,8,24,7,
24,6,24,5
310 DATA30,5,31,5,32,5,33,5,34,5
,30,6,30,7,31,7,32,7,33,7,34,7,3
0,8,30,9,31,9,32,9,33,9,34,9
320 DATA40,5,41,5,42,5,43,5,44,5
,40,6,40,7,41,7,42,7,43,7,44,7,4
0,8,40,9,41,9,42,9,43,9,44,9
330 DATA 50,5,51,5,52,5,53,5,54,
6,54,7,54,8,53,9,52,9,51,9,50,9,
51,6,51,7,51,8
340 DATA4,15,4,16,4,17,4,18,4,19
350 DATA6,15,6,16,6,17,6,18,6,19
,7,16,8,17,9,18,10,15,10,16,10,1
7,10,18,10,19
360 DATA12,15,13,15,14,15,15,15,
16,15,12,16,12,17,13,17,14,17,15
,17,16,17,16,18,16,19,15,19,14,1
9,13,19,12,19
370 DATA18,15,19,15,20,15,21,15,
22,15,20,16,20,17,20,18,20,19
380 DATA 24,15,25,15,26,15,27,15
,28,15,28,16,28,17,27,17,26,17,2
5,17,24,16,24,17,24,18,24,19,27,
18,28,19
390 DATA 30,15,30,16,30,17,30,18
,30,19,31,19,32,19,34,19,33,18,3
3,17,33,16,33,15
400 DATA 40,15,39,15,38,15,37,15
,36,15,36,16,36,17,36,18,36,19,3
7,19,38,19,39,19,40,19

```

```

410 DATA 42,15,43,15,44,15,45,15
,46,15,44,16,44,17,44,18,44,19
420 DATA 48,15,48,16,48,17,48,18
,48,19
430 DATA 50,15,50,16,50,17,50,18
,50,19,51,19,52,19,53,19,54,19,5
4,18,54,17,54,16,54,15,53,15,52,
15,51,15
440 DATA56,15,56,16,56,17,56,18,
56,19,57,16,58,17,59,18,60,15,60
,16,60,17,60,18,60,19
450 DATA62,15,63,15,64,15,65,15,
66,15,62,16,62,17,63,17,64,17,65
,17,66,17,66,18,66,19,65,19,64,1
9,63,19,62,19
460 DATA 68,13,69,12,70,12,71,12
,72,13,72,14,72,15,71,16,70,17,7
0,19
470 DATA 73,19
480 POKE 65496,0
490 IN$=INKEY$
500 IF IN$="Y"THEN GOTO 530
510 IF IN$="N"THEN GOTO 1040
520 GOTO490
530 WIDTH40
540 CLS2
550 GOSUB560:GOTO720
560 ATTR2,4
570 FORX=0TO39STEP2
580 LOCATEX+1,0
590 LOCATEX,1
600 LOCATEX,23
610 LOCATEX+1,22
620 PRINT"";
630 NEXT
640 FORX=3TO21STEP2
650 LOCATE0,X
660 LOCATE1,X-1
670 LOCATE39,X-1
680 LOCATE38,X
690 PRINT"";
700 NEXT
710 RETURN
720 LOCATE5,5
730 ATTR2,1:PRINT" THIS PROGRAM
IS DESIGNED TO";
740 LOCATE5,7:ATTR3,3:PRINT" DRA

```

```

V A TEMPERATURE GRAPH . ";
750 LOCATE5,9:ATTR2,4:PRINT" ALL
YOU HAVE TO DO IS PUT IN";
760 LOCATE5,11:ATTR2,5:PRINT" TH
E HIGHEST AND LOWEST ";
770 LOCATE5,13:ATTR3,6:PRINT" TE
MPERATURE FOR EACH DAY. ";
780 LOCATE5,15:ATTR2,4:PRINT" IN
PUT 1000 TO END DATA ";
790 LOCATE5,17:ATTR3,7,B:PRINT"
PRESS ANY KEY TO CONTINUE";
800 EXEC44539
810 CLS7:GOSUB560
820 LOCATE5,5:ATTR2,1:PRINT" YOU
FIRST HAVE THE CHOICE OF";
830 LOCATE5,7:ATTR3,2:PRINT" A G
RID OR NOT.THEN INPUT THE";
840 LOCATE5,9:ATTR3,3:PRINT" MON
TH AND YEAR (MIN.7 LTRS).";
850 LOCATE5,11:ATTR2,4:PRINT" AF
TER THE CHART IS COMPLETED";
860 LOCATE5,13:ATTR2,5:PRINT" PU
T IN THE DATA. (HIGH FIRST)";
870 LOCATE5,15:ATTR2,4:PRINT" IN
PUT 1000 TO END DATA ";
880 LOCATE5,17:ATTR2,6,B,U:PRINT
" PRESS ANY KEY TO CONTINUE ";
890 EXEC44539
900 CLS1:GOSUB 560
910 LOCATE5,10:ATTR3,2:PRINT" TH
E DATA IS DISPLAYED IN THE";
920 LOCATE5,12:ATTR3,3:PRINT" TO
P RIGHT CORNER. ";
930 LOCATE5,14:ATTR3,7,U,B:PRINT
" Press any key to continue ";
940 EXEC44539
950 CLS8
960 GOSUB560
970 LOCATE5,5:ATTR2,1:PRINT" THI
S PROGRAM AUTOMATICALLY ";
980 LOCATE5,7:ATTR3,2:PRINT" SAV
ES THE CHART WITHOUT GRID";
990 LOCATE5,9:ATTR3,3:PRINT" TO
A DISC AS A READY TO RUN ";
1000 LOCATE5,11:ATTR2,4:PRINT" P
ROGRAM UNDER THE NAME OF ";
1010 LOCATE5,13:ATTR2,5:PRINT" T
HE DATE (eg.NOV1986.TEM). ";
1020 LOCATE5,17:ATTR2,6,B:PRINT"
PRESS ANY KEY TO CONTINUE ";
1030 EXEC44539
1040 HH=&HF:GOSUB1050:GOTO1120
1050 WIDTH32
1060 POKE65497,0
1070 FORCL=1024 TO 1024+511
1080 POKECL,HH
1090 NEXT
1100 POKE65496,0
1110 RETURN
1120 PRINT@229,"DO YOU WISH A GR
ID? Y/N";
1130 GOSUB2070
1140 IF G$="Y" THEN GD=1:GOTO1170
1150 IF G$="N" THEN GD=2:GOTO1170
1160 GOTO1130
1170 HH=&HAF:GOSUB1060
1180 PRINT@229,"INPUT MONTH AND
YEAR:";
1190 PRINT@261,"";
1200 INPUT M$
1210 CLS5:TIMER=0:PRINT@230,"REM
1000 TO END DATA";
1220 PALETTE12,0:PALETTE13,64:FO
RDL=0TO150:NEXT
1230 PALETTE12,64:PALETTE13,0:FO
RDL=0TO150:NEXT
1240 IF TIMER<300 THEN GOTO 1220
1250 K$=LEFT$(M$,3)
1260 IF K$="JAN"OR K$="FEB"OR K$
="MAR"OR K$="APR"OR K$="MAY"OR K
$="JUN"OR K$="JUL"OR K$="AUG"OR
K$="SEP"OR K$="OCT"OR K$="NOV"OR
K$="DEC" THEN GOTO 1270 ELSE SOU
ND200,5:GOSUB1060:GOTO1180
1270 HSCREEN4
1280 HCLS5
1290 HCOLOR2,1
1300 K=13:LN=140
1310 Q=6
1320 Y=-5
1330 FORX=21 TO 1 STEP-2
1340 HPRINT(1,X),Y
1350 HPRINT(70,X),Y
1360 READ DS$
1370 HPRINT(76,X),DS$
1380 Y=Y+5
1390 NEXT
1400 HCOLOR2,1
1410 HLINE(50,0)-(50,192),PSET
1420 HLINE(0,180)-(650,180),PSET
1430 Y=1
1440 FORX=6TO66STEP2
1450 HPRINT(X,40),Y
1460 Y=Y+1
1470 NEXT
1480 HLINE(555,0)-(555,192),PSET
1490 IF GD=2 THEN GOTO 1550
1500 HCOLOR2,1:FORX=10TO180STEP1
7
1510 HLINE(50,X)-(555,X),PSET:NE
XT
1520 FORX=72TO555STEP16
1530 HLINE(X,10)-(X,180),PSET
1540 NEXT
1550 HPRINT(7,0),"INPUT ONLY TEM
PERATURE IN DEGREES C FOR "+LEFT
$(M$,3)+" "+RIGHT$(M$,4)
1560 HPRINT(70,40)," DAY"
1570 HPRINT(2,40)," C"
1580 HLINE(50,190)-(50,180),PSET
1590 D=64
1600 GOSUB1990:INPUT R:IF R=1000
THEN GOTO 1770 ELSE GOSUB2020
1610 GOSUB2030:INPUT L:IF L=1000
THEN GOTO 1770 ELSE GOSUB2060
1620 IF R>40 THEN R=40
1630 IFR<-5 THEN R=-5
1640 IFL>40 THEN L=40
1650 IFL<-5 THEN L=-5
1660 RR=180-(R+5)*3.4
1670 LL=180-(L+5)*3.4
1680 HLINE(D-8,RR)-(D+4,LL),PSET
,BF
1690 HPRINT(Q,INT(18-R/2.4)),R
1700 HPRINT(Q,INT(19-R/2.4)),L
1710 D$(K)=STR$(LN)+" DATA"+STR$
(R)+" "+STR$(L)
1720 Q=Q+2
1730 D=D+16
1740 LN=LN+10:K=K+1
1750 IF D>555 THEN GOTO 1770 ELSE
GOTO 1600
1760 DATA E,R,U,T,A,R,E,P,M,E,T
1770 GOSUB1850
1780 F$=K$+RIGHT$(M$,4)+"/TEM"
1790 OPEN"O",#1,F$
1800 FORV=0TOK
1810 PRINT#1,D$(V)
1820 NEXT
1830 CLOSE#1
1840 GOTO1840
1850 D$(0)="10 ON ERR GOTO 130:H
SCREEN4:HCLS5:Q=6:Y=-5"
1860 D$(1)="20 FORX=21TO1STEP-2"
1870 D$(2)="30 HPRINT(1,X),Y:HPR
INT(70,X),Y"
1880 D$(3)="40 READDS$:HPRINT(76
,X),DS$:Y=Y+5:NEXT"
1890 D$(4)="50 HCOLOR2,1:HLINE(5
0,0)-(50,192),PSET:HLINE(0,180)-
(650,180),PSET"
1900 D$(5)="60 Y=1:FORX=6TO66STE
P2:HPRINT(X,40),Y:Y=Y+1:NEXT"
1910 D$(6)="70 HLINE(555,0)-(555
,192),PSET:HPRINT(19,0),"+CHR$(3
4)+"TEMPERATURE FOR "+LEFT$(M$,3
)+" "+RIGHT$(M$,4)+CHR$(34)
1920 D$(7)="80 HPRINT(70,40),"+C
HR$(34)+" DAY"+CHR$(34)+":HPRINT
(2,40),"+CHR$(34)+" ^ C"+CHR$(34)
+":D=64"
1930 D$(8)="90 READ R,L:RR=180-(
R+5)*3.4:LL=180-(L+5)*3.4:HLINE(
D-8,RR)-(D+4,LL),PSET,BF"
1940 D$(9)="100 HPRINT(Q,INT(18-
R/2.4)),R:HPRINT(Q,INT(19-R/2.4)
),L:Q=Q+2:D=D+16"
1950 D$(10)="110 IF D>555 THEN GO
TO120 ELSE GOTO90"
1960 D$(11)="120 DATA E,R,U,T,A,
R,E,P,M,E,T"
1970 D$(12)="130 GOTO130"
1980 RETURN
1990 HCOLOR5,2:HLINE(465,0)-(518
,7),PSET,BF:HCOLOR2,1
2000 HPRINT(59,0),"HIGH*"
2010 RETURN
2020 HCOLOR5:HLINE(465,0)-(550,7
),PSET,BF:HCOLOR2:HPRINT(65,0),R
:RETURN
2030 HCOLOR5,2:HLINE(465,0)-(518
,7),PSET,BF:HCOLOR2,1
2040 HPRINT(59,0),"LOW*"
2050 RETURN
2060 HCOLOR5:HLINE(518,0)-(550,7
),PSET,BF:HCOLOR2:HPRINT(65,0),L
:RETURN
2070 A=150
2080 FORX=1024TO1024+31
2090 POKEX,A
2100 NEXT
2110 FORX=1024+63TO1024+511STEP3
2
2120 POKEX,A
2130 NEXT
2140 FORX=1024+510TO1024+510-31S
TEP-1
2150 POKEX,A
2160 NEXT
2170 FORX=1024+448TO1024+32STEP-
32
2180 POKEX,A
2190 NEXT
2200 IFA=150 THEN A=153 ELSE A=150
2210 IF A=150 THEN GOSUB 2240 ELSE
GOSUB 2250
2220 G$=INKEY$:IFG$="" THEN GOTO20
80
2230 RETURN
2240 SCREEN0,0:RETURN
2250 SCREEN0,1:RETURN
2260 POKE65496,0:WIDTH32:CLS:END
2270 'HARRY HOFFMANN,LOT 2 COSTE
LLO ROAD,CABARLAH QLD 4352
2280 ' REFERENCE E.G. COCO (MON
TH/YEAR,PAGE)

```

Dr. DENTAL

by Andrew Voutsis GAME 16K ECB

DR DENTAL'S INSTRUCTIONS ARE quite simple. You are the 'turret' at the bottom of the screen. Use the left and right arrow keys to move about, and the up arrow to fire.

Your object is to guard the four teeth at the top from the two germs. The top one causes decay by staying too long next to the tooth and causes the tooth to turn red in three turns.

The middle one does not damage the teeth, but is a nuisance item, often blocking your shots, but it moves when hit. So does the top germ.



The time the germ takes to damage the teeth is reduced as the game progresses, which means that eventually it becomes impossible and you lose.

So the idea is to get as high a score as possible before the game ends.

The score increases by ten (10) points if the middle germ is shot, by twenty (20) if the top one gets it. Firing only works when underneath the germ, and remember that if the germ hits your tooth three times the game ends.

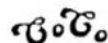
Note the double speed poke (65495,0) in the program and remove it before saving!

The Listing:

```
0 GOTO5
1 REM doctor dental by andrew v
  outsis
2 REM a clone of the hand held g
  ame of similar name
3 SAVE"126:3":END
4 POKE 65494,0:SAVE"DENTAL":END
5 POKE 65495,0
6 REM september 1986
7 E$="T22405L6CECE
8 US=79:A=54:B=54:C=54:D=54:G1=2
0:AA=3:BB=3:CC=3:DD=3:RO=0:SC=-3
0
9 PMODE 3,1:SCREEN 1,0:PCLS
10 REM THE TEETH
11 DRAW"BM 8,0;C2D80R56U80BR4D80
R56U80BR4D80R56U80BR4D80R56U80
12 DRAW"BM8,0;R56BR4R56BR4R56BR4
R56BR4
13 REM VALUES OF THE GERMS
14 BJ$="C3R8D2R4U6R24D6R16D10L4U
6L12D6L24U6L4D2L8U8R2BD2RBRBD2B
L6U2D4
15 IJ$="C4L8D2L4U6L24D6L16D10R4U
6R12D6R24U6R4D2R8U8L2BD2RBRBD2D
2R2U2
16 US$="C4R8U4R2D4R2E4F4R2U4R2D4
R8D12L34U12R2
17 GOSUB 44:GOSUB 45:GOSUB 46
18 REM the beginning of the 1
  oop
```

```
19 IF RO=INT(G1) THEN GOSUB 37 E
LSE RO=RO+1
20 IF US=199 THEN 21 ELSE IF PEE
K(344)=247 THEN GOSUB 36:US=US+6
0:GOSUB 46
21 IF US=19 THEN 22 ELSE IF PEEK
(343)=247 THEN GOSUB 36:US=US-60
:GOSUB 46
22 REM
23 REM FIRING FOR THE BOTTOM G
  ERM
24 IF US-BJ=15 THEN IF PEEK(341)
=247 THEN LINE(US+17,160)-(US+17
,145),PSET:PLAY E$:FOR T=1TO40:N
EXT:LINE(US+17,160)-(US+17,145),
PRESET:LINE(BJ-4,120)-(BJ+60,160
),PRESET,BF:GOSUB 45
25 REM firing for the top germ
26 IF TJ=US=49 THEN IF PEEK(341)
=247 THEN LINE(US+17,160)-(US+17
,109),PSET:PLAY E$:FOR T=1TO40:N
EXT:LINE(US+17,160)-(US+17,109),
PRESET:LINE(TJ-60,83)-(TJ+10,120
),PRESET,BF:COLOR 4:GOSUB 44
27 GOTO 18
28 TJ=248:RETURN
29 TJ=68:RETURN
30 TJ=128:RETURN
31 TJ=188:RETURN
32 BJ=4:RETURN
33 BJ=64:RETURN
34 BJ=124:RETURN
35 BJ=184:RETURN
36 LINE(US-8,160)-(US+60,185),PR
ESET,BF:COLOR 4:RETURN
```

```
37 REM filling in of the teeth
38 COLOR 4:SOUND 100,1:IF AA=0 O
R BB=0 OR CC=0 OR DD=0 THEN 47 E
LSE IF TJ=68 THEN 39 ELSE IF TJ=
128 THEN 40 ELSE IF TJ=188 THEN
41 ELSE IF TJ=248 THEN 42
39 LINE(8,80)-(64,A),PSET,BF:A=A
-27:AA=AA-1:GOTO 43
40 LINE(68,80)-(124,B),PSET,BF:B
=B-27:BB=BB-1:GOTO 43
41 LINE(128,80)-(184,C),PSET,BF:
C=C-27:CC=CC-1:GOTO 43
42 LINE(188,80)-(244,D),PSET,BF:
D=D-27:DD=DD-1:GOTO 43
43 RO=0:IF AA=0 OR BB=0 OR CC=0
OR DD=0 THEN 47 ELSE RETURN
44 FJ=RND(4):ON FJ GOSUB 28,29,3
0,31:DRAW"C1 BM"+STR$(TJ)+" ,96;"
+TJ$:SC=SC+20:RO=0:G1=G1-.5:RETU
RN
45 TH=RND(4):ON TH GOSUB 32,33,3
4,35:DRAW"C1 BBM"+STR$(BJ)+" ,132
"+BJ$:SC=SC+10:RETURN
46 DRAW"C1 BM"+STR$(US)+" ,168;"
+US$:RETURN
47 REM finale
48 CLS RND(7)+1:PRINT@139,"game
over";:PRINT@231,"YOUR SCORE WAS
";SC;:PRINT @325,"ANOTHER GAME
(Y/N)";:INPUT F$:IF F$="N" THEN
EXEC 40999 ELSE CLEAR:RUN
```



PROGRAMS

```

,50,19,51,19,52,19,53,19,54,19,5
4,18,54,17,54,16,54,15,53,15,52,
15,51,15
420 DATA56,15,56,16,56,17,56,18,
56,19,57,16,58,17,59,18,60,15,60
,16,60,17,60,18,60,19
430 DATA62,15,63,15,64,15,65,15,
66,15,62,16,62,17,63,17,64,17,65
,17,66,17,66,18,66,19,65,19,64,1
9,63,19,62,19
440 DATA 68,13,69,12,70,12,71,12
,72,13,72,14,72,15,71,16,70,17,7
0,19
450 DATA 73,19
460 POKE 65496,0
470 IN$=INKEY$
480 IF IN$="Y" THEN GOTO 510
490 IF IN$="N" THEN GOTO 960
500 GOTO470
510 WIDTH40
520 CLS2
530 GOSUB540:GOTO700
540 ATTR2,4
550 FORX=0TO39STEP2
560 LOCATEX+1,0
570 LOCATEX,1
580 LOCATEX,23
590 LOCATEX+1,22
600 PRINT"";
610 NEXT
620 FORX=3TO21STEP2
630 LOCATE0,X
640 LOCATE1,X-1
650 LOCATE39,X-1
660 LOCATE38,X
670 PRINT"";
680 NEXT
690 RETURN
700 LOCATE5,5
710 ATTR2,1:PRINT" THIS PROGRAM
IS DESIGNED TO";
720 LOCATE5,7:ATTR3,3:PRINT" DRA
W A RAINFALL GRAPH . ";
730 LOCATE5,9:ATTR2,4:PRINT" ALL
YOU HAVE TO DO IS PUT IN";
740 LOCATE5,11:ATTR2,5:PRINT" TH
E HIGHEST RAINFALL IN MM ";
750 LOCATE5,13:ATTR3,6:PRINT" FO
R EACH DAY. ";
760 LOCATE5,17:ATTR3,7,B:PRINT"
PRESS ANY KEY TO CONTINUE ";
770 EXEC44539
780 CLS7:GOSUB540
790 LOCATE5,5:ATTR2,1:PRINT" YOU
FIRST HAVE THE CHOICE OF";
800 LOCATE5,7:ATTR3,2:PRINT" A G
RID OR NOT.THEN INPUT THE";
810 LOCATE5,9:ATTR3,3:PRINT" MON
TH AND YEAR (MIN.7 LTRS).";
820 LOCATE5,11:ATTR2,4:PRINT" AF
TER THE CHART IS COMPLETED";
830 LOCATE5,13:ATTR2,5:PRINT" PU
T IN THE DATA. ";
840 LOCATE5,15:ATTR3,7,B:PRINT"
INPUT >1000< TO END DATA!!!";
850 LOCATE5,17:ATTR2,6,B,U:PRINT
" PRESS ANY KEY TO CONTINUE ";
860 EXEC44539
870 CLS8
880 GOSUB540
890 LOCATE5,5:ATTR2,1:PRINT" THI
S PROGRAM AUTOMATICALLY ";
900 LOCATE5,7:ATTR3,2:PRINT" SAV
ES THE CHART WITHOUT GRID";
910 LOCATE5,9:ATTR3,3:PRINT" TO
A DISC AS A READY TO RUN ";
920 LOCATE5,11:ATTR2,4:PRINT" PR
OGRAM UNDER THE NAME OF ";
930 LOCATE5,13:ATTR2,5:PRINT" TH
E DATE (eg. NOV1986.RFL). ";
940 LOCATE5,17:ATTR2,6,B:PRINT"
PRESS ANY KEY TO CONTINUE ";
950 EXEC44539
960 GOSUB970:GOTO1040
970 WIDTH32
980 POKE65497,0
990 FORCL=1024 TO 1024+511
1000 POKECL,223
1010 NEXT
1020 POKE65496,0
1030 RETURN
1040 PRINT@229,"DO YOU WISH A GR
ID? Y/N";
1050 G$=INKEY$:IFG$="" THEN1050
1060 IF G$="Y" THEN GD=1:GOTO1090
1070 IF G$="N" THEN GD=2:GOTO1090
1080 GOTO1050
1090 GOSUB980
1100 PRINT@229,"INPUT MONTH AND
YEAR:";
1110 PRINT@261,"";
1120 INPUT M$
1130 CLS4
1140 PRINT@171,"REMEMBER!";
1150 PRINT@228,"INPUT 1000 TO ST
OP DATA";:TIMER=0
1160 PALETTE12,0:PALETTE13,64:FO
RDLY=0TO100:NEXT
1170 PALETTE12,64:PALETTE13,0:FO
RDLY=0TO100:NEXT
1180 IF TIMER<500 THEN GOTO 1160
1190 CMP
1200 K$=LEFT$(M$,3)
1210 IF K$="JAN" OR K$="FEB" OR K$
="MAR" OR K$="APR" OR K$="MAY" OR K
$="JUN" OR K$="JUL" OR K$="AUG" OR
K$="SEP" OR K$="OCT" OR K$="NOV" OR
K$="DEC" THEN GOTO 1220 ELSE SOU
ND200,5:GOSUB980:GOTO1100
1220 HSCREEN4
1230 HCLS5
1240 HCOLOR2,5
1250 K=15:LN=160
1260 Q=6
1270 Y=0
1280 FORX=21 TO 1 STEP-2
1290 HPRINT(1,X),Y
1300 HPRINT(70,X),Y
1310 READ DS$
1320 HPRINT(76,X),DS$
1330 Y=Y+10
1340 NEXT
1350 HCOLOR2,1
1360 HLINE(50,0)-(50,192),PSET
1370 HLINE(0,180)-(650,180),PSET
1380 Y=1
1390 FORX=6TO66STEP2
1400 HPRINT(X,40),Y
1410 Y=Y+1
1420 NEXT
1430 HLINE(555,0)-(555,192),PSET
1440 IF GD=2 THEN GOTO 1500
1450 HCOLOR2,1:FORX=10TO180STEP1
7
1460 HLINE(50,X)-(555,X),PSET:NE
XT
1470 FORX=72TO555STEP16
1480 HLINE(X,10)-(X,180),PSET
1490 NEXT
1500 HPRINT(11,0),"INPUT ONLY RA
INFALL IN MILLIMETERS FOR "+LEFT
$(M$,3)+" "+RIGHT$(M$,4)
1510 HPRINT(70,40)," _ DAY"
1520 HPRINT(2,40)," mm"
1530 HLINE(50,190)-(50,180),PSET
1540 D=64:T=0:TT=0
1550 INPUT R
1560 IF R=1000 THEN GOTO1680
1570 IF R>95 THEN R=95
1580 IFR<0 THEN R=0
1590 RR=180-R*1.7
1600 HLINE(D-8,RR)-(D+4,180),PSE
T,BF
1610 HPRINT(Q,INT(20-R/5)),R
1620 D$(K)=STR$(LN)+" DATA"+STR$(
R)
1630 Q=Q+2
1640 D=D+16:T=T+R:TT=TT+1
1650 LN=LN+10:K=K+1
1660 IF D>555 THEN GOTO 1680 ELSE
GOTO 1550
1670 DATA L,L,A,F,N,I,A,R,*,m,m
1680 TL=T/TT:HPRINT(10,3),"THE A
VERAGE RAINFALL WAS":HPRINT(35,3
),TL:HPRINT(10,2),"THE TOTAL RAI
NFALL WAS":HPRINT(35,2),T:GOSUB1
760
1690 F$=K$+RIGHT$(M$,4)+" /RFL"
1700 OPEN"O",#1,F$
1710 FORV=0TOK
1720 PRINT#1,D$(V)
1730 NEXT
1740 CLOSE#1
1750 GOTO1750
1760 D$(0)="10 ON ERR GOTO 120:H
SCREEN4:HCLS5:Q=6:Y=0:T=0:TT=0"
1770 D$(1)="20 FORX=21TO1STEP-2"
1780 D$(2)="30 HPRINT(1,X),Y:HPR
INT(70,X),Y"
1790 D$(3)="40 READDS$:HPRINT(76
,X),DS$:Y=Y+10:NEXT"
1800 D$(4)="50 HCOLOR2,1:HLINE(5
0,0)-(50,192),PSET:HLINE(0,180)-
(650,180),PSET"
1810 D$(5)="60 Y=1:FORX=6TO66STE
P2:HPRINT(X,40),Y:Y=Y+1:NEXT"
1820 D$(6)="70 HLINE(555,0)-(555
,192),PSET:HPRINT(25,0),"+CHR$(3
4)+"RAINFALL FOR "+LEFT$(M$,3)+"
 "+RIGHT$(M$,4)+CHR$(34)
1830 D$(7)="80 HPRINT(70,40),"+C
HR$(34)+" _ DAY"+CHR$(34)+":HPR
INT(2,40),"+CHR$(34)+" ^ C"+CHR$(34)
+":D=64"
1840 D$(8)="90 READ R:RR=180-R*1
.7:HLINE(D-8,RR)-(D+4,180),PSET,
BF"
1850 D$(9)="100 HPRINT(Q,INT(20-
R/5)),R:Q=Q+2:D=D+16:T=T+R:TT=TT
+1"
1860 D$(10)="110 IF D>555 THEN GO
TO120 ELSE GOTO90"
1870 D$(11)="120 TL=T/TT:HPRINT(
10,3),"+CHR$(34)+"THE AVERAGE RA
INFALL WAS"+CHR$(34)+":HPRINT(35
,3),TL"
1880 D$(12)="130 HPRINT(10,2),"+
CHR$(34)+"THE TOTAL RAINFALL WAS
 "+CHR$(34)+":HPRINT(35,2),T"
1890 D$(13)="140 DATA L,L,A,F,N,
I,A,R,*,m,m"
1900 D$(14)="150 GOTO150"
1910 RETURN
1920 'HARRY HOFFMANN,LOT 2 COSTE
LLO ROAD,CABARLAH QLD 4352
1930 'REFERENCE eg RAINBOW MAGAZ
INE (MONTH/YEAR,PAGE)

```

306

DRAUGHTS

by John Neale

32K ECB

GAME

MY GAME OF draughts can be played by two players only as the computer acts as a referee. Full instructions are in the program. Have fun!

The Listing:

```

1 'DRAUGHTS
2 GOTO10
3 SAVE"117:3":END
10 'BOARD
20 VV=0:DIMAA(0,14),BB(0,14)
30 GOTO540
40 PMODE3,1:PCLS(3):SCREEN1,0:COLOR2,3
50 DRAW"C1":LINE(0,0)-(254,192),PSET,BF:DRAW"C2":FORX=15TO191STEP22:Y1=15:Y2=192:LINE(X,Y1)-(X,Y2),PSET:NEXTX
60 FORY=15TO192STEP22:X1=15:X2=191:LINE(X1,Y)-(X2,Y),PSET:NEXTY
70 FORY=17TO188STEP44
80 FORX=17TO190STEP44:PAINT(X,Y),3,2:NEXTX:NEXTY
90 FORY=49TO190STEP44:FORX=49TO190STEP44:PAINT(X,Y),3,2:NEXTX:NEXTY
100 A=4:FORY=26TO180STEP44:IFY=14THEN130ELSE110
110 IFY=158THENA=2ELSEA=4
120 FORX=25TO200STEP44:CIRCLE(X,Y),9:PAINT(X,Y),A,2:NEXTX
130 NEXTY
140 A=4:FORY=47TO190STEP44:IFY=91THEN160ELSEIFY=47 THENA=4ELSEA=2
150 FORX=47TO210STEP44:CIRCLE(X,Y),9:PAINT(X,Y),A,2:NEXTX
160 NEXTY
170 RESTORE
180 FOR X=1 TO 8:READ A$(X):NEXT X
190 DRAW"BM16,12;C4;XA$(1);":DRAW"BM42,12;C4;XA$(2);"
200 DRAW"BM64,12;XA$(3);":DRAW"BM86,12;XA$(4);"
210 DRAW"BM108,12;XA$(5);":DRAW"BM130,12;XA$(6);"
220 DRAW"BM152,12;XA$(7);":DRAW"BM174,12;XA$(8);"
230 FORX=1TO8:READB$(X):NEXT
240 DRAW"BM2,32;XB$(1);"
250 DRAW"BM2,54;XB$(2);"
260 DRAW"BM2,76;XB$(3);"
270 DRAW"BM2,98;XB$(4);"
280 DRAW"BM2,120;XB$(5);"
290 DRAW"BM2,142;XB$(6);"
300 DRAW"BM2,164;XB$(7);"
310 DRAW"BM2,186;XB$(8);"
320 IF VV=1 THEN350
330 GOTO550
340 VV=1:GOTO40
350 FORX=1TO400:NEXT
360 SCREEN0,0:CLS(6):POKE359,57:PRINT@42,"DRAUGHTS";
370 PRINT@96," THIS GAME OF DRAUGHTS IS PLAYED WITH THE SAME RULES AS THE USUAL BOARD GAME. THIS INCLUDES KINGS. IT IS A TWO PLAYER GAME BUT YOU CAN'T CHEAT AS THE COMPUTER WILL STOP YOU FROM CHEATING."
380 GOSUB520
390 CLS(6):PRINT@42,"DRAUGHTS";
400 PRINT@96," THE BOARD IS SET OUT IN A GRID. TO MOVE YOUR DRAUGHTSMEN YOU TYPE IN THE GRID REFERENCE OF YOUR CHOSEN MAN AND THEN THE REFERENCE OF THE PLACE YOU ARE MOVING TO."
410 GOSUB520
420 CLS(6):PRINT@42,"DRAUGHTS";
430 PRINT@96," WHEN PLACING GRID REFERENCES ALWAYS PLACE THE LETTER FIRST. THE REFERENCE WILL NOT BE SHOWN ONLY THE DRAUGHTS MAN WILL MOVE. IF YOU ARE JUMPING A MAN IT WILL DISAPPEAR OF ITS OWN ACCORD."
440 GOSUB520
450 CLS(6):PRINT@42,"DRAUGHTS";
460 PRINT@96," IF YOU REACH THE OTHER END AND WISH TO BE CROWNED PRESS <K>AND THE GRID REFERENCE AND YOU WILL BE CROWNED."
470 GOSUB520
480 CLS(6):PRINT@42,"DRAUGHTS";
490 PRINT@96," WHEN THE GAME H
AS FINISHED PRESS <Q> TO RESTART"
500 GOSUB520
510 VV=0:POKE359,126:GOTO40
520 PRINT@448," <ENTER>"
"
530 IF INKEY$=""THEN530 ELSE RETURN
540 CLS(RND(8)):PRINT@230,"INSTRUCTIONS (Y/N)?":I$=INKEY$:IFI$="Y"THEN340 ELSEIFI$="N"THENGOSUB40ELSE540
550 GET(15,103)-(37,125),BB,G
560 'BEGIN GAME
570 D=1:SS=0:FORZ=1TO2
580 X$(Z)=INKEY$:IFX$(Z)=""THEN580
590 IF X$(Z)="K"THEN1070
600 IF X$(Z)="Q"THEN1200
610 IF X$(Z)>"H" OR X$(Z)<"A" THEN650
620 Y$(Z)=INKEY$:IFY$(Z)=""THEN620
630 IFY$(Z)>"8"OR Y$(Z)<"1"THEN650
640 NEXT:GOTO680
650 SOUND150,30
660 FORZ=1TO2:X$(Z)="" :Y$(Z)="" :NEXT
670 GOTO570
680 'MOVEMENT
690 FORZ=1TO2
700 IFX$(Z)="A"THENX(Z)=15 ELSEIFX$(Z)="B"THENX(Z)=37 ELSEIFX$(Z)="C"THENX(Z)=59 ELSEIFX$(Z)="D"THENX(Z)=81 ELSEIFX$(Z)="E"THENX(Z)=103 ELSEIFX$(Z)="F"THENX(Z)=125 ELSEIFX$(Z)="G"THENX(Z)=147 ELSEIFX$(Z)="H"THENX(Z)=169
710 IFY$(Z)="1"THENY(Z)=15 ELSEIFY$(Z)="2"THENY(Z)=37 ELSEIFY$(Z)="3"THENY(Z)=59 ELSEIFY$(Z)="4"THENY(Z)=81 ELSEIFY$(Z)="5"THENY(Z)=103 ELSEIFY$(Z)="6"THENY(Z)=125 ELSEIFY$(Z)="7"THENY(Z)=147 ELSEIFY$(Z)="8"THENY(Z)=169
720 IF SS=1 THEN1120 ELSE730

```

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26-3156

..... WAS 34⁹⁵

NOW
19⁹⁵

COLOR LOGO LAB

This version of the "turtle graphics" program is designed for the classroom situation where children can learn computer programming under supervision.

26-2770

..... WAS 289⁹⁵

NOW
99⁹⁵

SUPER LOGO DISK

An updated version of the Color logo that will take your child through more advanced echelons of computer programming. "Turtle graphics" teaching method is unsurpassed.

26-2716

..... WAS 199⁹⁵

NOW
89⁹⁵

TYPING TUTOR

A fun way to learn to type or improve your current level of performance. This program includes a ten page instruction manual and self-tests. 16K min required.

26-7961

..... WAS 34⁹⁵

NOW
19⁹⁵

ATOM

This game is an educational tool designed to introduce your child to the exciting sub-atomic world of elements. The object is to build an atom out of the 54 elements.

26-3145

..... WAS 39⁹⁵

NOW
19⁹⁵

GOMOKU AND RENKU

A classic Oriental game that requires the player to place five men in a row. If you've got the patience and the time, this is an extremely worthwhile program to master.

26-3069

..... WAS 49⁹⁵

NOW
24⁹⁵

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By programming the two robots, you can learn about computer programming. Players are encouraged to challenge others, and thereby improve their programming skills.

26-3070

..... WAS 69⁹⁵

NOW
29⁹⁵

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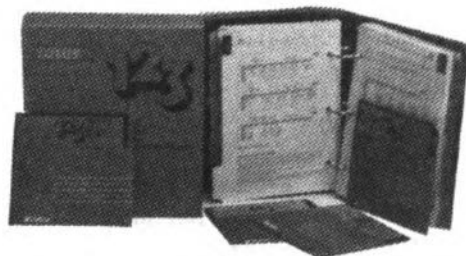
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Business Applications Software

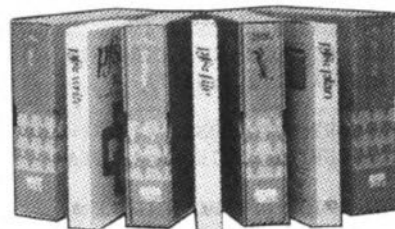
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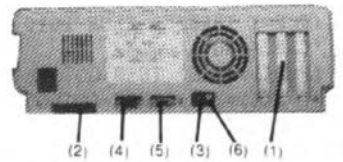
Sorry no rainchecks on the items.



SAVE \$800

Reg 1999.00

\$1199



SPECIFICATIONS

Microprocessor: Intel 8088 processor. Clock speed: 4.77 MHz. Operating System: Includes Microsoft's advanced MS-DOS 2.11 with BASIC. **Memory:** 128K RAM, expandable to 640K. **Keyboard:** 90-key sculptured, including numeric keypad. Twelve programmable Special Function keys. **Video Display:** Optional high-resolution, non-glare 30.48cm monochrome (green) or color monitor. 80 or 40 characters per line by 25 lines. High-resolution monochrome and color graphics (displaying 8 colors selected from 16). **Disk Drives:** One built-in double-sided, double-density, 360K (formatted) thin-line 13-34cm mini-floppy. 48 tracks per inch. **Internal Expansion:** (1) Three user-accessible IBM PC-compatible 25cm card slots, second 360K Floppy Disk Drive. **External Connections:** (2) Standard parallel printer port. (3) monochrome monitor. (4) Light pen adapter, two joysticks. (5) RGBI Color Monitor. (6) composite video and audio. **Power:** 240 VAC, 50Hz.

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The Tandy 1000 is indicative of our pledge to making high quality affordable computers. Other PC compatibles don't offer you adapters for your peripheral devices or include a software program that may be all you need! Tandy 1000 is the basis for greater business efficiency.

25-1000



Tandy 1000 with Monitor and Deskmate Software

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An offer that's unique since you'll probably never need to add to the Deskmate Software we've included here. It's a word processor, spreadsheet, inventory list and has a menu that greets you each morning with a calendar and appointment schedule. With a modem you'll be able to converse with other computers. The 30cm monochrome monitor is non-interlaced for sharp clear display.

25-1000 3211

● *The Complete Computer Package That Includes DESKMATE Software as a BONUS*

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Australiawide Including
Tandy Computer Centres
Order On VIATEL #642**

Independent Tandy Dealers may not be participating in this ad or have every item advertised. Prices may also vary at individual Dealer Stores

PROGRAMS

```

730 NEXTZ
740 F=1:GOTO790
750 GET(X(1),Y(1))-(X(1)+22,Y(1)
+22),AA,G
760 PUT(X(1),Y(1))-(X(1)+22,Y(1)
+22),BB,PSET
770 PUT(X(2),Y(2))-(X(2)+22,Y(2)
+22),AA,PSET:IF D=1THENSOUND100,
1ELSEFORQ=240 TO 255:SOUNDQ,1:NE
XT
780 IF F=1 THEN560 ELSE 1010
790 'CHECKING
800 IF X(1)=X(2) THEN GOTO650
810 IF Y(1)=Y(2) THEN GOTO650
820 IF PPOINT(X(1)+11,Y(1)+11)=1
THEN650
830 IF PPOINT(X(2)+11,Y(2)+11)<
3THEN650
840 IF X(1)-X(2)=22 OR X(2)-X(1)
=22 THEN850 ELSE860
850 IF Y(1)-Y(2)=22 OR Y(2)-Y(1)
=22 THEN750 ELSE860
860 IF X(2)-X(1)=44 AND Y(2)-Y(1)
=44 THEN910
870 IF X(1)-X(2)=44 AND Y(1)-Y(2)
=44 THEN920
880 IF X(1)-X(2)=44 AND Y(2)-Y(1)
=44 THEN930
890 IF X(2)-X(1)=44 AND Y(1)-Y(2)
=44 THEN940
900 GOTO650
910 GOSUB950:G=1:YY=PPOINT(X(1)+
33,Y(1)+33):GOTO970

```

```

920 GOSUB950:G=2:YY=PPOINT(X(1)-
11,Y(1)-11):GOTO970
930 GOSUB950:G=3:YY=PPOINT(X(1)-
11,Y(1)+11):GOTO970
940 GOSUB950:G=4:YY=PPOINT(X(1)+
33,Y(1)-11):GOTO970
950 XX=PPOINT(X(1)+11,Y(1)+11)
960 ZZ=PPOINT(X(2)+11,Y(2)+11):R
ETURN
970 IF ZZ=3 THEN980 ELSE GOTO650
980 IF XX=YY THEN650
990 IF YY=3 THEN650
1000 D=2:F=2:GOTO750
1010 IF G=1 THEN 1030 ELSE IF G=
2 THEN 1040 ELSE IF G=3 THEN 10
50 ELSE IF G=4 THEN 1060
1020 GOTO560
1030 PUT(X(1)+22,Y(1)+22)-(X(1)+
44,Y(1)+44),BB,PSET:GOTO560
1040 PUT(X(1)-22,Y(1)-22)-(X(1),
Y(1)),BB,PSET:GOTO560
1050 PUT(X(1)-22,Y(1)+22)-(X(1),
Y(1)+44),BB,PSET:GOTO560
1060 PUT(X(1)+22,Y(1)-22)-(X(1)+
44,Y(1)),BB,PSET:GOTO560
1070 X$(1)=INKEY$:IF X$(1)="THE
N1070
1080 IF X$(1)>"H" OR X$(1)<"A"TH
EN650
1090 Y$(1)=INKEY$:IF Y$(1)="THE
N1090
1100 IF Y$(1)="1" OR Y$(1)="8"TH
EN1110ELSE650

```

```

1110 Z=1:SS=1:GOTO680
1120 XX=PPOINT(X(1)+11,Y(1)+11)
1130 IF Y(1)=15 AND XX=2 THEN 11
60
1140 IF Y(1)=169 AND XX=4 THEN11
80
1150 GOTO650
1160 DRAW"C1":CIRCLE(X(1)+10,Y(1)
)+10),8
1170 GOTO570
1180 DRAW"C1":CIRCLE(X(1)+10,Y(1)
)+10),7
1190 GOTO570
1200 CLS(5):PRINT"ANOTHER GAME <
Y/N?";I$=INKEY$:IF I$=""THEN12
00 ELSEIF I$="Y"THENRUN ELSEEND
1210 DATA E2U1E2U1E2U1E2U1D1F2D1
F2L6R6D1F2D1F2,U13R5F3G3L2R2F3G4
L3,BR3R3E3G3L3H3U7E3R3F3,U13R5F3
D7G3L5,U13R6L6D6R4L4D7R6,U13R6L6
D6R4,BR3R3E3U3L3R3D3G3L3H3U7E3R3
F3,U13D6R8U6D12
1220 DATA BR3R4L2U13G3,R9L9U3E3R
3E2U2H2L3G2,BU2F2R3E3H3L2R2E3H3L
3G2,BU3R9L9E2U1E2U1E2D12,BU2F2R3
E3U2H3L5U4R7,BU2F2R3E3U2H3L5D6U8
E3R2,E2U1E2U1E2U1E2U1L8,BR2R4E2U
2H2E2U2H2L4G2D2F2R2L2G2D2F2

```

☪☪



VOYAGER

by Wayne Kely
16K ECB
GRAPHICS

The Listing:

```

0 GOTO5
3 SAVE"129A:3":END
5 '*****VOYAGER*****
7 '***BY WAYNE KELY***
8 '*****14/11/86*****
10 PMODE4,1:SCREEN1,1:PCLS
20 CIRCLE(36,20),13,1,.4:CIRCLE(
36,20),13,,.6,0,.5
30 DRAW"BM30,28;C3;D2;R11;U2;D2;
L3;U2;D2;L4;U2"
40 LINE(40,30)-(70,35),PSET:LINE
(70,35)-(69,37),PSET:LINE(69,37)
-(38,32),PSET:DRAW"BM38,32;U2"
50 LINE(36,22)-(36,18),PSET
60 LINE(30,30)-(1,32),PSET:LINE(
30,30)-(3,35),PSET
70 DRAW"BM30,30;F4;E4":DRAW"BM32

```

```

,30;F2;E2":DRAW"BM37,30;S7;D2;R2
;U2;D4;L2;U2"
80 LINE(45,25)-(70,20),PSET
90 FOR X=1 TO 30:H=RND(255):V=RND
(192):PSET(H,V):NEXT
100 CIRCLE(172,52),50
110 CIRCLE(44,148),10
120 CIRCLE(198,52),60,1,1,.35,.6
7
130 PAINT(172,92),1,1
140 CIRCLE(50,148),10,1,1,.33,.6
9
150 PAINT(49,146),1,1
160 DIM VA(70,50)
170 GET(0,0)-(70,50),VA,G
180 H=0:V=0
190 PUT(H,V)-(H+70,V+50),VA,PSET
200 GET(H,V)-(H+70,V+50),VA,G
210 H=H+2:V=V+3
220 FOR X=1 TO 5:Y=RND(70+H):X=R
ND(50+H):PSET(Y,X):NEXT
230 IF V>154 THEN GOTO 250
240 GOTO 190
250 GOTO 250

```

☪☪

My CREATION OF Voyager
uses CoCo's GET and PUT
commands to move the
Voyager space craft
through a space scene. It really
needs no instructions.

MICO

I will assume that you know how to play 21 or Blackjack or Pontoon or at least know someone else who does know the game. A pontoon pays five to one and beats all. A hand of five cards totalling 21 or less beats all except pontoon and pays two to one. Beating the dealer with a higher total pays even money. If you equal the dealers total you lose. (This is a well organised game of Blackjack J.)

by Daniel Adams

The Listing MICO 21:

```

1 REM***** MICO 21 *****
***** DANIEL ADAMS *****
***** (C) SEP 1986 *****

2 GOT010
9 CSAVE"MICO 21":STOP
10 CLEAR100:CLS
30 DIM PA(5,3),PB(5,3),PC(5,3)
35 DIM NM$(3),TM(3)
45 DIM S$(20),C$(20),S(20),C(20)
  DD(5,3)
50 FORX=1T05
55 FORY=1T03
60 READ A,B,C,D
70 PA(X,Y)=A
80 PB(X,Y)=B
90 PC(X,Y)=C
95 DD(X,Y)=D
100 NEXTY,X
110 H1$=CHR$(128)+CHR$(178)+CHR$(178)
120 H2$=CHR$(180)+CHR$(191)+CHR$(190)
130 H3$=CHR$(128)+CHR$(180)+CHR$(128)
140 D1$=CHR$(128)+CHR$(177)+CHR$(128)
150 D2$=CHR$(128)+CHR$(189)+CHR$(184)
160 D3$=CHR$(128)+CHR$(128)+CHR$(128)
170 S1$=CHR$(128)+CHR$(193)+CHR$(128)
180 S2$=CHR$(193)+CHR$(205)+CHR$(201)
190 S3$=CHR$(128)+CHR$(196)+CHR$(128)
200 C1$=CHR$(128)+CHR$(193)+CHR$(128)
210 C2$=CHR$(196)+CHR$(193)+CHR$(196)
220 C3$=CHR$(128)+CHR$(196)+CHR$(128)
230 REM TITLE-----
235 CLS#
240 FORI=8T04STEP-1:SET(12,1,3):NEXT:SET(13,5,3):SET(14,6,3):SET(15,5,3):FORI=4T08:SET(16,1,3)
250 NEXT:FORI=4T08:SET(20,1,3):NEXT:SET(19,4,3):SET(21,4,3):SET(19,8,3):SET(21,8,3)
260 SET(28,5,3):FORI=27T025STEP-1:SET(1,4,3):SET(1,8,3):NEXT:FOR

```



MC-10

```

I=5T07:SET(24,1,3):NEXT
270 SET(28,7,3):FORI=31T033:SET(1,4,3):SET(1,8,3):NEXT:FORI=5T07:SET(30,1,3):SET(34,1,3):NEXT
280 SET(44,5,2):FORI=45T047:SET(1,4,2):NEXT:SET(48,5,2):SET(47,6,2):SET(46,6,2):SET(45,7,2):FORI=44T048:SET(1,8,2):NEXT
290 SET(50,5,2):FORI=4T08:SET(51,1,2):NEXT:SET(50,8,2):SET(52,8,2)
300 PRINT@202,"daniel adams":POKE16624,49:POKE16625,57:POKE16626,56:POKE16627,54
305 POKE16620,40:PRINT@237,"c":POKE16622,41
310 FORI=288T0416STEP32:PRINT@I,"":NEXT
320 PRINT@330,H1$+D1$+C1$+S1$
330 PRINT@362,H2$+D2$+C2$+S2$
340 PRINT@394,H3$+D3$+C3$+S3$
350 FORI=330T0341STEP3
360 PRINT@I,"a":PRINT@I+66,"a"):NEXT
370 PRINT@450,"PRESS '1','2' OR '3' PLAYERS":
380 A$=INKEY$:IF A$="" THEN380
390 IF VAL(A$)>30RVAL(A$)<1 THEN380
395 PN=VAL(A$)
397 CLS
400 NM$(2)="COMP.":NM$(3)="COMP.":
401 TM(2)=1000:TM(3)=1000
405 FORI=1T0PN
410 PRINT"PLAYER "I"'S NAME":
415 INPUT NM$(1)
417 IF NM$(1)="" THEN410
418 IF NM$(1)="COMP." THEN410
419 IF LEN(NM$(1))<<THENNM$(1)=NM$(1)+" ":GOT0419
420 NM$(1)=LEFT$(NM$(1),6)
430 TM(1)=1000
440 NEXT
445 CLS
450 PRINT@0,NM$(1):PRINT@7,"$":TM(1)
455 PRINT@17,NM$(2):PRINT@24,"$":TM(2)
460 PRINT@256,"DEALER TOTAL":DT:
470 PRINT@273,NM$(3):PRINT@280,"$":TM(3)
600 REM SHUFFLE + CHECK-----
605 PRINT@385,"SHUFFLING":
610 FORI=1T020
620 C=RND(13)
630 S=RND(4)
640 T=I-1
650 FORJ=1T0T
660 IF(C(J)=C AND S(J)=S) THEN620
670 NEXTJ
675 C(I)=C:S(I)=S
680 IF(C(I)>10 THEN 700
690 C(I)=STR$(C(I))
695 IF(C(I)=1) THENC(I)="A"
696 GOT0800
700 ON C(I)-10GOTO710,720,730
710 C$(I)="J":GOT0800
720 C$(I)="Q":GOT0800
730 C$(I)="K"
800 ONS(I)GOT0810,820,830,840
810 S$(I)="H":GOT0850
820 S$(I)="D":GOT0850
830 S$(I)="C":GOT0850
840 S$(I)="S"
850 NEXTI
855 PRINT@385,"":
860 U=1:N=16384
865 AB=0:BP=0:CB=0
870 AT=0:BT=0:CT=0:DT=0
875 AS=0:BS=0:CS=0:DS=0
877 AN=0:BN=0:CN=0:DN=0
880 FN=1
900 REM DEAL CARDS-----
905 FORX=FNT0FN+3
907 FORM=1T0100:NEXTM: SOUND100,1
910 ONX+1-FN GOT0919,999,1099,1199
919 IFAS=20RAS=1 THENNEXTX
920 IFS$(X)="D" THENPRINT@PA(U,1),D1$:PRINT@PB(U,2),D2$:PRINT@PC(U,3),D3$:GOT0925
921 IFS$(X)="H" THENPRINT@PA(U,1),H1$:PRINT@PB(U,2),H2$:PRINT@PC(U,3),H3$:GOT0925
922 IFS$(X)="C" THENPRINT@PA(U,1),C1$:PRINT@PB(U,2),C2$:PRINT@PC(U,3),C3$:GOT0925
923 PRINT@PB(U,1),S1$:PRINT@PB(U,2),S2$:PRINT@PB(U,3),S3$
925 GOSUB1300
926 POKEPA(U,1)+N,P1:POKEPB(U,3)+N+2,P2
927 AN=AN+1
930 IF C$(X)="A" THEN970
940 IF C$(X)>10 THEN960
950 AT=AT+VAL(C$(X)):NEXTX
960 AT=AT+10:NEXTX
970 PRINT@160,"ACE CAN BE WORTH":PRINT@192,"'A'=1 OR 'B'=11":
975 A$=INKEY$:IF A$="" THEN975
980 IFA$="A" THENAT=AT+1:GOT0990
985 IFA$="B" THENAT=AT+11:GOT0990
987 GOT0975
990 PRINT@160,"":PRINT@192,"":NEXTX
999 IFBS=20RBS=1 THENNEXTX
1000 IFS$(X)="H" THENPRINT@PB(U,1),H1$:PRINT@PB(U,2),H2$:PRINT@PB(U,3),H3$:GOT01020
1005 IFS$(X)="D" THENPRINT@PB(U,1),D1$:PRINT@PB(U,2),D2$:PRINT@PB(U,3),D3$:GOT01020
1010 IFS$(X)="C" THENPRINT@PB(U,1),C1$:PRINT@PB(U,2),C2$:PRINT@PB(U,3),C3$:GOT01020
1015 PRINT@PB(U,1),S1$:PRINT@PB

```

-21-

PROGRAMS

```

(U,2),S2#):PRINT@PB(U,3),S3#;
1020 GOSUB1300
1025 POKEPB(U,1)+N,P1:POKEPB(U,3)
)+N+2,P2
1027 BN=BN+1
1030 IFC(X)="R"THEN1070
1040 IFC(X)>10THEN1060
1050 BT=BT+VAL(C#(X)):NEXTX
1060 BT=BT+10:NEXTX
1070 PRINT@176,"ACE CAN BE WORTH
");PRINT@208,"'A'=1 OR 'B'=11";
1072 IFNM#(2)="COMP,"THENA=RND(3)
):IFA=1THENA#="A":GOTO1080
1073 IFNM#(2)="COMP,"THENA#="B":
GOTO1085
1075 A#=INKEY#:IFA#=""THEN1075
1080 IFA#="R"THENBT=BT+1:GOTO109
0
1085 IFA#="B"THENBT=BT+11:GOTO10
90
1087 GOTO1075
1090 PRINT@176,"
");PRINT@208,"
");
NEXTX
1099 IFCS=20RCS=1THENNEXTX
1100 IFS#(X)="H"THENPRINT@PC(U,1
),H1#;PRINT@PC(U,2),H2#;PRINT@
PC(U,3),H3#;GOTO1120
1105 IFS#(X)="D"THENPRINT@PC(U,1
),D1#;PRINT@PC(U,2),D2#;PRINT@
PC(U,3),D3#;GOTO1120
1110 IFS#(X)="C"THENPRINT@PC(U,1
),C1#;PRINT@PC(U,2),C2#;PRINT@
PC(U,3),C3#;GOTO1120
1115 PRINT@PC(U,1),S1#;PRINT@PC
(U,2),S2#;PRINT@PC(U,3),S3#;
1120 GOSUB1300
1125 POKEPC(U,1)+N,P1:POKEPC(U,3)
)+N+2,P2
1127 CN=CN+1
1130 IFC(X)="R"THEN1170
1140 IFC(X)>10THEN1160
1150 CT=CT+VAL(C#(X)):NEXTX
1160 CT=CT+10:NEXTX
1170 PRINT@432,"ACE CAN BE WORTH
");PRINT@464,"'A'=1 OR 'B'=11";
1172 IFNM#(3)="COMP,"THENA=RND(3)
):IFA=1THENA#="A":GOTO1180
1173 IFNM#(3)="COMP,"THENA#="B":
GOTO1185
1175 A#=INKEY#:IFA#=""THEN1175
1180 IFA#="R"THENCT=CT+1:GOTO119
0
1185 IFA#="B"THENCT=CT+11:GOTO11
90
1187 GOTO1175
1190 PRINT@432,"
");PRINT@464,"
");
NEXTX
1199 IFDS=1THENU=U+1:NEXTX:GOTO1
400
1200 IFS#(X)="H"THENPRINT@DD(U,1
),H1#;PRINT@DD(U,2),H2#;PRINT@
DD(U,3),H3#;GOTO1220
1205 IFS#(X)="D"THENPRINT@DD(U,1
),D1#;PRINT@DD(U,2),D2#;PRINT@
DD(U,3),D3#;GOTO1220
1210 IFS#(X)="C"THENPRINT@DD(U,1
),C1#;PRINT@DD(U,2),C2#;PRINT@
DD(U,3),C3#;GOTO1220
1215 PRINT@DD(U,1),S1#;PRINT@DD
(U,2),S2#;PRINT@DD(U,3),S3#;
1220 GOSUB1300
1225 POKEDD(U,1)+N,P1:POKEDD(U,3)
)+2+N,P2
1227 DN=DN+1
1230 IFC(X)="R"THEN1270
1240 IFC(X)>10THEN1260
1250 DT=DT+VAL(C#(X)):U=U+1:NEXT
X:GOTO1400
1260 DT=DT+10:U=U+1:NEXTX:GOTO14
00
1270 IFDN=1THENDT=DT+11:U=U+1:NE
XTX:GOTO1400
1275 IFDT<=5THENDT=DT+1:U=U+1:NE
XTX:GOTO1400
1280 IFDT<=10THENDT=DT+11:U=U+1:
NEXTX:GOTO1400
1290 DT=DT+1:U=U+1:NEXTX:GOTO140
0
1300 REM POKE VALUES-----
1310 IFC(X)=1THENP1=1:P2=1:RETUR
N
1320 IFC(X)=10THENP1=49:P2=48:RE
TURN
1330 IFC(X)=11THENP1=10:P2=P1:RE
TURN
1340 IFC(X)=12THENP1=17:P2=P1:RE
TURN
1350 IFC(X)=13THENP1=11:P2=P1:RE
TURN
1360 P1=(C(X)+48):P2=P1:RETURN
1370 P1=ASC(A#):P2=P1:RETURN
1400 REM
1410 REM BETTING SECTION-----
1420 IFTK(1)<=1THENAS=2
1421 IFTK(2)<=1THENBS=2
1422 IFTK(3)<=1THENS=2
1423 IFAT>21THENAS=1:PRINT@196,"
BUST";
1424 IFBT>21THENBS=1:PRINT@212,"
BUST";
1425 IFCT>21THENS=1:PRINT@468,"
BUST";
1430 PRINT@268,DT;
1440 PRINT@33,"TOTAL",AT;PRINT@
50,"TOTAL",BT;PRINT@306,"TOTAL"
);CT;
1450 REM PLAYER 1
1455 PRINT@160,"
");
1456 PRINT@192,"
");
1460 IF AS=1 THEN1600
1465 IF AS=2 THENPRINT@163,"BANK
RUPT";GOTO1600
1470 PRINT@160,"'1' SIT";PRINT@
192,"'2' DRAW CARD";
1480 A#=INKEY#:IFA#=""ORR#="2"
HEN1490
1485 GOTO1480
1490 PRINT@160,"
");PRINT@
192,"
");
1495 IFA#="1"THENAS=1:GOTO1600
1500 PRINT@160,"BET";
1510 INPUT:IFB>1000ORB>TK(1)ORB
<0THEN1500
1515 IFINT(B<>>B)THEN1500
1520 AB=AB+B:TK(1)=TK(1)-B
1530 PRINT@8,TK(1);
1540 PRINT@160,"BET #";AB
1600 REM PLAYER 2
1601 PRINT@177,"
");
1602 PRINT@209,"
");
1605 IFBS=1THEN1700
1610 IFBS=2THENPRINT@180,"BANKRU
PT";GOTO1700
1615 IFNM#(2)="COMP,"THEN1900
1620 PRINT@177,"'1' SIT";PRINT@
209,"'2' DRAW CARD";
1625 A#=INKEY#:IFA#=""ORR#="2"
HEN1635
1630 GOTO1625
1635 REM
1640 PRINT@177,"
");PRINT@
209,"
");
1645 IFA#="1"THENBS=1:GOTO1700
1650 PRINT@177,"BET";
1655 INPUT:IFB>1000ORB>TK(2)ORB
<0THEN1650
1670 IFINT(B<>>B)THEN1650
1680 BB=BB+B:TK(2)=TK(2)-B
1685 PRINT@25,TK(2);
1690 PRINT@177,"BET #";BB
1700 REM PLAYER 3
1701 PRINT@433,"
");
1702 PRINT@465,"
");
1705 IFCS=1THEN2050
1710 IFCS=2THENPRINT@436,"BANKRU
PT";GOTO2050
1712 IFNM#(3)="COMP,"THEN1950
1715 PRINT@433,"'1' SIT";PRINT@
465,"'2' DRAW CARD";
1720 A#=INKEY#:IFA#=""ORR#="2"
HEN1730
1725 GOTO1720
1730 PRINT@433,"
");PRINT@
465,"
");
1735 IFA#="1"THENS=1:GOTO2050
1740 PRINT@434,"BET";
1745 INPUT:IFB>1000ORB>TK(3)ORB
<0THEN1740
1750 IFINT(B<>>B)THEN1740
1755 CB=CB+B:TK(3)=TK(3)-B
1760 PRINT@281,TK(3);
1770 PRINT@434,"BET #";CB
1780 GOTO2050
1900 REM COMPUTER PLAYER 2
1905 IFBT=>19THENBS=1:GOTO1685
1910 IFBT=>16THENLK=RND(5):IFLK<
>3THENBS=1:GOTO1685
1920 B=RND(TK(2)/2)
1930 GOTO 1680
1950 REM COMPUTER PLAYER 3
1955 IFCT=>19THENS=1:GOTO1760
1960 IFCT=>16THENLK=RND(5):IFLK<
>3THENS=1:GOTO1760
1970 B=RND(TK(3)/2)
1980 GOTO1755
2000 DATA 64,81,337,320,96,113,3
69,352,128,145,481,384
2010 DATA 67,84,340,323,99,116,3
72,355,131,148,484,387
2020 DATA 70,87,343,326,102,119,
375,358,134,151,487,390
2030 DATA 73,90,346,329,105,122,
378,361,137,154,410,393
2040 DATA 76,93,349,332,108,125,
381,364,140,157,413,396
2050 IFDS=1THEN2085
2060 IFDT<=16THENDS=0:GOTO2080
2070 DS=1
2080 IFDS=0THENPRINT@418,"DEALER
TAKES";PRINT@452,"ONE CARD";
2085 IFDT>21THENPRINT@452,"BUST"
);GOTO2100
2090 IFDS=1THENPRINT@418,"DEALER
SITS";
2100 FORM=1702000:NEXTM
2110 PRINT@418,"
");:P
RINT@452,"
");
2120 GOSUB2140
2130 FN=FN+4:GOTO900
2140 REM CHECK FOR HAND OVER
2150 IF AS<>0ANDBS<>0ANDCS<>0AND
DS<>0THEN2170
2160 RETURN
2170 SOUND200,5
2180 REM WHO WON WHAT
2185 CLS
2187 S=2:R=2:0=2
2190 IFDT>21THENDT=0:DN=0
2195 IFCT>21THENDT=0:CN=0
2200 IFBT>21THENDT=0:BN=0
2205 IFAT>21THENDT=0:AN=0
2210 IFDT<=21THENIFDN=5THENDT=22
2215 IFCT<=21THENIFCN=5THENDT=22
S=3
2220 IFBT<=21THENIFBN=5THENDT=22
R=3
2225 IFAT<=21THENIFAN=5THENDT=22
0=3
2230 IFDN=2ANDDT=21THENDT=23
2235 IFCN=2ANDCT=21THENDT=23:S=6
2240 IFBN=2ANDBT=21THENDT=23:R=6
2245 IFAN=2ANDAT=21THENDT=23:0=6
2250 IFA#>DTTHENPRINTNM#(1),"W
N #";AB#(Q-1):TK(1)=TK(1)+AB#Q:
GOTO 2270
2260 PRINTNM#(1),"LOST #";AB
2270 IFBT>DTTHENPRINTNM#(2),"W
N #";BB#(R-1):TK(2)=TK(2)+BB#R:
GOTO2290
2280 PRINTNM#(2),"LOST #";BB
2290 IFCT>DTTHENPRINTNM#(3),"W
N #";CB#(S-1):TK(3)=TK(3)+CB#S:
GOTO2310
2300 PRINTNM#(3),"LOST #";CB
2310 FORM=1705000:NEXTM
2320 GOTO445

```

TRAINING OUR CHILDREN TO FIGHT A COMPUTERIZED WAR

by John Carmichael



International
Year of Peace 1986

INTERNATIONAL YEAR OF PEACE provides us, as programmers and buyer's of software, with the opportunity to consider what social messages are impeded in the software we write and use.

Games programs which go BANG, and give us the chance to experience the power of being in charge of a deadly missile, may seem harmless enough. But is this the sort of thing we really want our children to absorb?

My attention was drawn to this by a friend whose children were attending a local primary school. The school used this sort of software as a reward for its students.

In response, I wrote the following letter to all 25 local Primary schools. I include it in the hope that our readers will consider this matter, and raise it in their own local primary school.

I would be very pleased to hear from anyone who raises this issue in their local school.

P.O. Box 595
TAREE NSW 2430

The Secretary,
P&C Association,
Primary School

Dear sir/madam,

Some of the local schools have been considering the question of educational software which uses missiles and war-related graphics to reward students.

As a psychologist, programmer, and co-ordinator of the local Manning Peace Group, I would like to draw your attention to this matter and express some views for you to consider.

Games programmes which involve the shooting of missiles or weapons, with associated explosions, are not harmless, especially when it is primary school age children who are being exposed to them.

Such programmes, especially if offered as rewards, provide a background of normalcy to the concept of computerised war. The idea of sitting in front of a computer screen and pressing buttons to achieve destruction, is not one we should be encouraging our children to think of as normal, or acceptable behaviour.

By offering them in schools as positive reinforcement, the underlying message you are sending your children is that such behaviour is not only socially acceptable, but to be enjoyed.

This message is all the more powerful because it is not stated or obvious, and so is unlikely to be critically appraised, or considered by the teacher with the students.

Your school could set an important example to others during this International Year of Peace, by taking a stand against war-oriented software, and encouraging software writers to use more imaginative reinforcers.

I would appreciate a reply indicating how your association dealt with this matter.

Yours sincerely,

John Carmichael.
B.Comm(Psych)Hons

HOME BUDGET

by Dean Hodgson BUSINESS

32K ECB or 16K ECB modified



THE HOME BUDGET Planner (HBP) was written in 1983 at the request of a good friend. She wanted a program that would allow her to plan the household budget over at least six months time.

The main idea behind HBP is the ability to set up a chart that includes various budget items. You can arrange up to 25 different expense or savings categories and record up to 26 amounts in each area. Starting balances can be included and an overall balance is shown.

In design concept, HBP is similar to a spreadsheet. Everything is done in rows and columns like a chart. However, the advantage is that it is already set up and that it will produce different types of listings depending on what you want.

The program requires Extended Colour Basic and works in 16k (tape only) or more RAM. It will operate on either tape or disk.

LOADING

16k cassette users will have to type POKE25,6:NEW before loading to clear out all graphics pages first.

PRINTER SPEED

When first RUN the program asks what printer speed you want. This is for users who may have printer interfaces attached that can handle different speeds (as I have). If you are using a Tandy printer (such as a DMP-100, etc) the speed is 600.

If you don't know press ENTER. The speed will be set to 600.

START UP MENU

There are two choices that follow:

Create a new file
Load a file

Create allows you to set up a new file with new categories and starting balances. Press C to select. Load will prompt you to load a file.

CREATE A FILE

Each datafile consists of up to 25 categories. A file must contain at least one category.

The spinning cursor shows where the name will be displayed on the screen. Each category has a maximum of 8 letters, indicated by the length of the orange block. A category can be any area into which you will put amounts: rent, car, payment, savings, food, and so on. Press Enter after typing each category name.

The cursor then jumps to the right. You can enter an initial amount of money here, if you wish. For example, if you want to keep track of an account, you would enter the amount owing. (e.g. AVCO...\$387.33) Press Enter to move on.

If you are entering a savings account or similar, type a MINUS sign before the amount. e.g. SAVINGS...-\$124.89. If you do not do this, the program will take off what you've put in when you enter amounts later.

If you do not want a balance, simply press Enter.

EDITING: If you make a mistake and have pressed Enter, you can fix it by using the up/down arrow keys. Move the cursor to the category to be fixed then retype it.

When you have finished entering all the categories and initial balances, press the CLEAR key.

NOTE: The CLEAR key acts as an ESCAPE in this program. Pressing it will 'get you out of' whatever you are doing. It is especially handy if you accidentally press the wrong key.

LOADING A FILE

Option L from the start up menu will load a data file you have previously saved. The data can be on tape or disk.

The steps needed to load are shown on the screen.

MAIN MENU

The main menu is the part of the program from which most tasks are selected. This menu cannot be selected until categories have been entered.

There are five choices here:

Calculate expenses
Edit categories
Printout file
Load/save file
Quit session

Press the first letter to select the desired option.

Remember, you can press the CLEAR key to get back to this menu.

CALCULATE EXPENSES

This option permits you to enter amounts of money into each category. These amounts are then added to or subtracted from the initial balance you started with.

The screen displays headings for your categories on the left side, the word DATES at the top left corner, and TOTALS at the bottom. Two cursors are

shown: a left-pointing arrow and the normal spinning cursor at the bottom.

The arrow shows where figures will be placed on the screen. The spinning cursor is where your data is first displayed.

The arrow can be moved about by the keyboard's arrow keys. Only three of the twenty-six columns are displayed on the screen at a time. As well, only thirteen of the maximum 25 categories are shown. Trying to move the arrow beyond the edge of the screen will switch the display to the next three columns or the next group of categories. In this way the screen acts like a "window" to the whole planning sheet.

Moving the arrow to the top of the screen allows you to type in dates. To place a date, first put the arrow at the top where you want the date to appear. Then type the date and press Enter. The date is typed at the bottom of the screen. Pressing Enter causes it to jump to the top.

Values can be easily changed by repositioning the arrow-cursor and typing in a new figure. What you type replaces what is there and a new total calculated. Balances for each category are also refigured. Used in this way, HBP can be used to "test" various amounts or combinations.

When you have finished entering all the data you want, press the CLEAR key to return to the Main Menu.

EDIT CATEGORIES

This option lets you add new categories to your list or delete them. Select your choice by pressing A for add or D for delete.

To add a category, all you have to do is type it

in. Category headings are limited to 8 characters in length, as are all columns.

The Delete option lets you remove a category from the list. Once removed, all figures entered are also taken away and total balances recalculated.

PRINTOUT FILE

This lets you see everything you have put in. The information can be displayed either on the screen or a printer. The printout has been configured to a width of 80 columns.

A total balance based on the original entry less the values put in is shown. If the balance shows negative (-) that means money is owing. If there is no sign that means money has been accumulated.

On the screen display, the arrow keys are used to move to various parts of the total columns.

LOAD/SAVE FILE

The sequence to follow is shown on the screen.

The disk option does not test for a drive present. All disk files use the "/DAT" extension and assume drive 0.

QUIT SESSION

I strongly recommend using this option rather than just switching the computer off too early.

Questions have been included here to make sure you have:

- recorded any data in memory
- really want to quit
- restart fresh

The Listing:

```

1 GOTO9000
2 ***** HOME BUDGET PLANNER ***
3 ***** DEAN HODGSON *****
4 SAVE"138B:3":END
10 PX=PEEK(136)*256+PEEK(137):CX
=PEEK(PX):GOSUB98
15 BK=1
20 DL=0
25 AS=INKEY$:IF AS=CHR$(12) THEN
RETURN
26 IF AS<>" " THENPOKEPX,CX:PLAY"
T20005C":RETURN
30 DL=DL+1:IFDL>4THENPOKEPX,VAL(
MID$("11141307",BK,2))+BD ELSE25
35 BK=BK+2:IFBK>7 THEN15ELSE20
50 IS=""
55 GOSUB10
60 IF AS=CHR$(8) AND LEN(IS)>0 T
HEN PX=PX-1:IS=LEFT$(IS,LEN(IS)-
1):PRINTAS::GOSUB20:GOTO60
65 IF AS=CHR$(12) OR AS=CHR$(13)
THENRETURN
66 IF AS=" " OR AS=CHR$(10) THEN
RETURN
70 IF LEN(IS)=LX OR AS<" " THENG
OSUB80:GOTO55
75 IS=IS+AS:PRINTAS::GOTO55
80 PLAY"T255L2V3003CDEFG":RETURN
85 PRINT@480,"IS THIS CORRECT? (
Y/N) ";
86 GOSUB10:IF AS<>"Y" AND AS<>"N
" THENGOSUB80:GOTO86 ELSE RETURN
90 BC=RND(8):IF BC=CO THEN90 ELS
E BC=137+16*(BC-1):PRINT@,STRIN
G$(33,BC)::PRINT@480,STRING$(31,
BC)::POKE1535,BC:FORK=31TO479 ST

```

```

EP32:PRINT@K,STRING$(2,BC)::NEXT
:RETURN
92 PRINT@483,"PRESS SPACEBAR TO
CONTINUE";
93 IF INKEY$<>" " THEN93 ELSE RE
TURN
95 CO=RND(7)+1:CLS(CO):CB=CO*16+
127:CB$=CHR$(CB):GOTO90
96 CO=RND(8):CLS(CO):CB=CO*16+12
7:CB$=CHR$(CB):GOSUB98:BD=BD+9:P
RINT@0,STRING$(32,BD)::PRINT@480
,STRING$(31,BD)::POKE1535,BD:RET
URN
98 B9=RND(8):IF B9=CO THEN98 ELS
E BD=B9*16+112:RETURN
100 GOSUB95:SCREEN0,0
101 PRINT@104,"ADD A CATEGORY";
102 PRINT@168,"DELETE A CATEGORY
";:PRINT@207,;:GOSUB10:IFAS=CHR$(
12)THEN8000
103 IF AS="A" THEN260 ELSE IF AS
<>"D" THENGOSUB80:GOTO100
110 GOSUB95:PP=38:N=1
120 PRINT@PP,USINGS$;C$(N);
130 PRINT@481,"DELETE THIS ?";:G
OSUB86:IFAS=CHR$(12)THEN8000ELSE
IF AS="Y" THEN138
131 IFPP=422 THENPP=50 ELSE PP=P
P+32
133 N=N+1:IF N<=NR THEN120 ELSE1
40
138 FORI=N+1 TO NR:C$(I-1)=C$(I)
:B(I-1)=B(I):FORJ=1TO26:V(I-1,J)
=V(I,J):NEXT:NR=NR-1:GOTO12
0
140 SOUND1,5
150 PRINT@480,STRING$(30,BC)::GO
SUB92:GOTO8000

```

```

260 IFNR>24THENSREENO,1:CLS:PRI
NT"YOU HAVE 25 CATEGORIES.":PRIN
T"YOU'LL HAVE TO DELETE SOMETHIN
G FIRST BEFORE ADDING.":GOSUB92:
GOTO8000
262 NR=NR+1
265 LX=8:GOSUB95:PRINT@166,"ENTE
R NEW CATEGORY";:PRINT@200,;:GOS
UB50:C$(NR)=IS
267 PRINT@289,"WHAT IS THE INITI
AL BALANCE?":PRINT@324,;:LX=10:
GOSUB50:B(NR)=VAL(IS)
268 GOSUB85:IFAS="N"THEN265
270 FORI=1TO26:V(NR,I)=0:NEXT
280 GOTO8000
350 GOSUB95:PRINT@232,"TAPE OR d
ISK? ";:GOSUB10:IF AS="T" THEN P
=-1 ELSE IF AS="D" THEN P=1 ELSE
GOSUB80:GOTO350
360 RETURN
400 SCREEN0,0:GOSUB95:PRINT@102,
"SELECT PRINTER SPEED";:PRINT@17
3,"1 - 300";:PRINT@237,"2 - 600"
;:PRINT@301,"3 - 1200";:PRINT@36
5,"4 - 2400";
404 PRINT@421,"PRESS ENTER IF UN
SURE. ";
405 AS=INKEY$:IF AS="" THEN405
411 IF AS=CHR$(12) OR AS=CHR$(13
) THEN440
415 IF AS<"1" OR AS>"4" THENGOSU
B80:GOTO400
420 ON VAL(AS) GOTO430,440,450,4
60
430 POKE150,180:RETURN
440 POKE150,87:RETURN
450 POKE150,41:RETURN
460 POKE150,18:RETURN

```

PROGRAMS

```

650 PRINT#-2,STRING$(3,13);:RETRN
1100 SCREEN0,1:GOSUB95
1110 PRINT@8,"ENTER CATEGORIES";
:PP=32:NR=1:M=0:PRINT@486,"PRESS
clear WHEN DONE";
1120 PRINT@PP,USING$S;C$(NR);
1122 IFNR>M THENM=NR
1125 PRINT@PP,;:LX=8:GOSUB50
1126 IF A$=CHR$(12) THEN 1200
1130 IF NR>MAX THEN GOSUB80:GOTO
1120
1131 IF A$<>CHR$(10) THEN1136
1132 GOSUB1170:IF PP=416 THENPP=
48:NR=NR+1:GOTO1120
1133 IF NR=M THENGOSUB80:GOTO112
0
1134 PP=PP+32:NR=NR+1:GOTO1120
1136 IF A$<>" " THEN1140
1137 GOSUB1170:IF PP=48 THENPP=4
16:NR=NR-1:GOTO1120
1138 IF PP<64 THENGOSUB80:GOTO11
20
1139 PP=PP-32:NR=NR-1:GOTO1120
1140 C$(NR)=I$
1142 PRINT@PP+8,STRING$(8,143);:
PRINT@PP+8,;:GOSUB50:IF A$=CHR$(1
2)THEN1200ELSEB(NR)=VAL(I$):PRIN
T@PP+8,USINGF$;B(NR);
1145 NR=NR+1:IF NR>MAX THENGOSUB
80:GOTO1205
1150 PP=PP+32:IFPP>416THENPP=48
1160 GOTO1120
1170 IF LEN(C$(NR))>0 THENPRINT@
PP,C$(NR); ELSEPRINT@PP,STRING$(
8,CB);
1171 RETURN
1200 IF I$="" THENC$(NR)=I$
1201 IF NR<M THENPRINT@PP,USING$
S;C$(NR);
1202 IF C$(M)="" THENM=M-1
1205 PRINT@480,STRING$(28,BC);:S
CREEN0,0:GOSUB85:IF A$="N"THENPP=
32:NR=1:PRINT@480,STRING$(26,BC)
;:GOTO1120
1210 NR=M:GOTO8000
2000 CLS:CB=32:SCREEN0,1:N=1:R=0
:RR=1:NX=1:NN=1:LX=7:PR=1535:G$=
"###.###"
2100 POKE65495,0:PRINT@0,"dates-
";:FORI=0TO2
2101 IFLEN(DA$(N+1))=8 THENDA$(N
+1)=LEFT$(DA$(N+1),5)
2102 J=LEN(DA$(N+1)):A$=STRING$(
7-J,32)+DA$(N+1)
2105 PRINT@ (I+1)*8,A$;:NEXT
2110 FORI=1TO13:IFI+R=(NR THENPR
INT@I*32,C$(I+R);STRING$(8-LEN(C
$(I+R)),32);:PRINT@I*32+8,USINGG
$+" ";:V(I+R,N);V(I+R,N+1);V(I+R,
N+2);:NEXT
2120 IFR=13THENPRINT@416,STRING$
(32,32);
2130 PRINT@448,"total..";:K=INT(
(N-1)/3)*3+1
2139 FOR I=K TO K+2:T=0
2140 FORJ=1TO NR:T=T+ABS(V(J,I))
:NEXT:PRINTUSINGF$;T;:NEXT
2150 N=NX:POKE65494,0
2190 POKEPR,96
2195 IFN>NF THENNF=N
2200 PR=32*(RR-R)+NN*8+1031:POKE
PR,31:PP=PR-1031:I$=""
2210 PRINT@492,STRING$(8,143);:P
RINT@492,;:FORZ=338TO345:POKEZ,2
55:NEXT:GOSUB10:S=INSTR(CM$,A$):

```

```

ON S GOTO2220,2230,2240,2250,226
0,8000
2211 I$=A$:PRINT@492,I$;
2212 GOSUB55:IF A$="" ORA$=CHR$(1
0)THEN2210
2213 IF A$=CHR$(12)THEN8000
2214 GOTO2260
2220 IFRR=0THENGOSUB80:GOTO2210
2221 RR=RR+1:IFRR=13THENR=OELSE2
190
2222 NX=N:N=N-NN+1:GOTO2110
2230 IFRR=NR THENGOSUB80:GOTO221
0
2231 RR=RR+1:IFRR=14THENR=13:GOT
O2222 ELSE 2190
2240 IFN=1THENGOSUB80:GOTO2210
2241 NN=NN-1:N=N-1:NX=N:IFNN<1TH
ENNN=3:NX=N:N=N-2:GOTO2100
2242 GOTO2190
2250 IFN=26THENGOSUB80:GOTO2210
2251 NN=NN+1:N=N+1:NX=N:IFNN>3TH
ENNN=1:GOTO2100ELSE2190
2260 IF I$="" THEN2200
2261 IFRR=0THEN2270
2262 IF VAL(I$)>999.99 THENGOSUB
80:GOTO2200
2263 V(RR,N)=VAL(I$):PRINT@PP,US
INGG$;V(RR,N);
2265 IFRR=NR THEN2130
2266 RR=RR+1:IFRR=14THENR=13:GOT
O2222 ELSE2130
2269 GOTO2230
2270 PRINT@PP,STRING$(7-LEN(I$),
32)+I$;:DA$(N)=I$:GOTO2190
4000 GOSUB95:PRINT@166,"LOAD FIL
E FROM TAPE?";:PRINT@230,"SAVE F
ILE ON TAPE?";
4005 PRINT@303,;:GOSUB10
4010 IF A$="L" THEN4100
4020 IF A$="S" THEN5000
4025 IF A$=CHR$(12) THEN8000
4030 GOSUB80:GOTO4005
4100 GOSUB350:GOSUB95
4105 AUDI00N
4110 PRINT@100,"WHAT IS THE FILE
CODE?";:GOSUB98:BD=BD+15
4120 PRINT@236,STRING$(8,BD);:PR
INT@236,;:LX=8:GOSUB50:FI$=I$
4135 IF P=1 THEN4150
4140 SCREEN0,1:CLS1:PRINT@32,"PL
ACE DATA TAPE IN RECORDER. PO
SITION TAPE.":PRINT"PRESS PLAY S
WITCH.":GOSUB92
4150 CLS1:POKE359,126:PRINT"SEAR
CHING FOR "FI$:OPEN" I",#P,FI$:PR
INT" "FI$" FOUND."
4160 LINEINPUT#P,PV$
4210 INPUT#P,NR,NF:PRINT@160,FI$
:PRINTNR"CATEGORIES OF"NF"ENTRIE
S."
4220 FOR I=1 TO NR:LINEINPUT#P,C
$(I):INPUT#P,B(I):PRINT@224,"NOW
LOADING" I
4230 FORJ=1TO NF:INPUT#P,V(I,J):
NEXTJ
4240 NEXTI
4250 FOR I=1 TO NF:LINEINPUT#P,D
A$(I):NEXT
4260 CLOSE:POKE359,57:SCREEN0,1:
GOSUB92:GOTO8000
5000 GOSUB350:GOSUB95
5020 PRINT@100,"WHAT IS THE FILE
CODE?";
5030 GOSUB98:BD=BD+15:LX=8:PRINT
@166,STRING$(LX,BD);:PRINT@166,;
:GOSUB50:IF LEN(I$)<1 THEN5030 E

```

```

LSE FX$=I$
5040 PV$="PASSWORD"
5045 IFP=1 THEN5060
5050 CLS1:SCREEN0,1:PRINT@32,"PL
ACE DATA TAPE INTO RECORDER. PO
SITION TAPE.":PRINT"PRESS RECORD
AND PLAY SWITCHES.":GOSUB92
5060 CLS:PRINT@160,"NOW RECORDIN
G "FX$:POKE359,126
5061 TIMER=0
5062 MOTORON
5064 IF TIMER<1600 THEN 5062
5066 MOTOROFF
5070 OPEN"O",#P,FX$
5080 PRINT#P,PV$
5090 PRINT#P,NR,NF
5110 FORI=1TO NR:PRINT@224,"RECO
RDING" I:PRINT#P,C$(I):PRINT#P,B(
I)
5120 FORJ=1TO NF:PRINT#P,V(I,J):
NEXTJ
5130 NEXTI
5135 FORI=1TO NF:PRINT#P,DA$(I):
NEXT
5140 CLOSE:CLS1:POKE359,57:SCREE
N0,1
5141 TIMER=0
5142 MOTORON
5144 IF TIMER<1600 THEN 5142
5146 MOTOROFF
5150 IF P=1 THEN5200 ELSEPRINT"D
O YOU WANT TO VERIFY THIS R
ECORDING? (Y/N) ";:GOSUB86:IF A$
="N" THEN5200
5160 PRINT@64,"REWIND & POSITION
TAPE. PRESS PLAY BUTTON.":PRI
NT:PRINT"IF RECORDING IS BAD TYP
E":PRINT" GOTO5200 AND PRESS ENT
ER TO RETURN TO PROGRAM.":
GOSUB92:SKIPF
5170 PRINT:PRINT"RECORDING GOOD.
":GOSUB92
5200 GOSUB95:PRINT@67,"DO YOU WA
NT TO MAKE ANOTHER";:PRINT@99,"C
OPY ? (Y/N) ";:GOSUB86
5210 IF A$="N" THEN8000
5220 GOTO5000
6000 IF NR=0 THEN2010 ELSEGOSUB9
5:POKE359,126:PRINT@168,"SCREEN
OR PRINTER";:PRINT@238,;:GOSUB10
6002 IF A$="" THENGOSUB400
6003 IF A$=CHR$(12) THEN8000
6005 IF A$<>"S" AND A$<>"P" THEN
GOSUB80:GOTO6000 ELSE SCREEN0,1
6010 T$=A$:GOTO6100
6050 PRINT#-2,USING$S;C$(X);:PRI
NT#-2," ";:PRINT#-2,USINGF$;B(
X):PRINT#-2,""
6055 FORI=1TO13:PRINT#-2,USING$S
;DA$(I);:PRINT#-2," ";:PRINT#-2
,USINGF$;V(X,I);:PRINT#-2,TAB(34
);:PRINT#-2,USING$S;DA$(I+13);:P
RINT#-2," ";:PRINT#-2,USINGF$;V
(X,I+13):NEXTI
6060 T=B(X):FORI=1TO NF:T=T-V(X,
I):NEXT:PRINT#-2,STRING$(2,13);"
BALANCE...";:PRINT#-2,USINGF$;T
*-1:PRINT#-2,STRING$(6,13)
6070 GOTO8000
6100 GOSUB95:SCREEN0,1:PP=38
6110 FORI=1TO NR:PRINT@PP,I;C$(I
);:IF PP=422 THENPP=50-32
6120 PP=PP+32:NEXTI:PRINT@434,"a
ll";
6130 PRINT@463,;:LX=3:GOSUB50
6135 IF A$=CHR$(12) THEN8000

```

```

6140 IF I$="ALL" THEN6300 ELSEX=
VAL(I$)
6150 IF X<1 OR X>NR THENGOSUB80:
GOTO6130
6155 IF T$="P" THEN6050
6160 PP=32:GOSUB95:PRINT@8,USING
S$;C$(X);:PRINTUSINGF$;B(X);
6170 FORI=1TO NF:PRINT@PP,DA$(I)
::PRINT@PP+8,USINGF$;V(X,I);:PP=
PP+32:IF PP=448 THENPP=48
6180 NEXTI
6185 T=B(X)::FORI=1TO NF:T=T-V(X
,I):NEXT:PRINT@PP,"balance ";:PR
INTUSINGF$;T*-1;
6190 GOSUB92:GOTO6000
6200 PRINT@0," dates->";:PRINTUS
INGS$;DA$(N);DA$(N+1);DA$(N+2);
6210 FORI=1TO13:PRINT@I*32,STRIN
G$(32,32);
6220 IF I+R<=NR THENPRINT@I*32,U
SINGS$;C$(I+R);:PRINTUSINGF$;V(I
+R,N);V(I+R,N+1);V(I+R,N+2);
6230 NEXT
6235 IFR=13THENPRINT@416,STRING$
(32,32);
6250 PRINT@448," total..";:FORI=
N TO N+2:T=0
6260 FORJ=1TONR:T=T+V(J,I):NEXT:
PRINTUSINGF$;T;:NEXT:RETURN
6300 IF T$="P" THEN6500
6305 CLS:SCREEN0,1:N=1:R=0:CB=1
6310 GOSUB6200
6330 PRINT@481,"COMMAND: ";:GOSU
B10:S=INSTR(CM$,A$):IF S=0 THENG
OSUB80:GOTO6330
6340 ON S GOTO 6347,6350,6400,64
50,6000,8000
6345 GOSUB80:GOTO6330
6347 IF R=13 THEN R=0:GOTO6310 E
LSE6345
6350 IF NR<=13 THEN6345
6360 R=13:GOTO6310
6380 GOTO6330
6400 IF N=1 THEN6345
6410 N=N-3:GOTO6310
6450 IF N+3>NF THEN6345
6460 N=N+3:GOTO6310
6500 IF NF<9 THENR=NF ELSE R=9
6510 S=1:GOSUB6600
6520 IF NF<10 THEN8000
6530 IF NF<18 THENR=NF ELSE R=18
6540 S=10:GOSUB6600
6550 IF NF<19 THEN8000
6560 R=NF:S=19:GOSUB6600:GOTO800
0
6600 PRINT#-2,TAB(8)::FORI=S TO
R:PRINT#-2,USING$;DA$(I);:NEXT:
GOSUB6800
6610 FORI=1TO NR:PRINT#-2,USING$
;C$(I);
6620 FORJ=S TO R:PRINT#-2,USINGF
$;V(I,J);:NEXTJ:GOSUB6800
6625 NEXTI
6630 PRINT#-2,"          "STRING$(
(R-S+1)*8,45):PRINT#-2,TAB(8);
6640 FORJ=S TO R:T=0
6645 FORI=1TO NR:T=T+V(I,J):NEXT
I
6650 PRINT#-2,USINGF$;T;:NEXTJ
6660 PRINT#-2,STRING$(3,13):RETU
RN
6800 IF R<>9 AND R<>18 THENPRINT
#-2," "
6801 RETURN
7000 IF NF=0 THENGOSUB95:GOTO702
0

```

```

7010 GOSUB95:PRINT@98,"DO YOU WA
NT TO RECORD";:PRINT@130,"THE CU
RRENT FILE? (Y/N)";:GOSUB86:IF A
$="Y" THEN5000
7020 PRINT@290-64,"DO YOU WANT T
O ERASE MEMORY";:PRINT@260,"AND
RESTART? (Y/N) ";:GOSUB86:IF A$=
"Y" THENRUN
7030 PRINT@386,"DO YOU WANT TO Q
UIT? (Y/N) ";:GOSUB86:IF A$="N"
THEN8000
7040 POKE359,126:CLS:PRINT"PROGR
AM TERMINATED.":PRINT:END
8000 POKE359,57:SCREEN0,1:GOSUB9
5:POKE282,255:PRINT@71,"home bud
get planner";
8010 PRINT@169,"CALCULATE EXPENS
ES";:PRINT@233,"eDIT CATEGORIES"
::PRINT@297,"pRINTOUT FILE";:PRI
NT@361,"LOAD/SAVE FILE";:PRINT@4
25,"qUIT SESSION";
8020 PRINT@111,;:GOSUB10:Q=INSTR
("CEPLQ",A$)
8030 ON Q GOTO 2000,100,6000,400
0,7000
8040 GOSUB80:GOTO8000
9000 Q=RND(-TIMER):CLEAR500:MAX=

```

```

25
9030 DIM$(MAX),V(MAX,27),DA$(27
),B(MAX)
9040 F$="###.##":S$="% %"
:CM$=""+CHR$(10)+CHR$(8)+CHR$(9
)+CHR$(13)+CHR$(12)
9055 GOSUB400
9060 SCREEN0,0:GOSUB95:PRINT@103
,"home budget planner";:PRINT@26
6,"LOAD FILE";:PRINT@202,"cCREATE
FILE";:PRINT@335,;:GOSUB10:Q=IN
STR("CeLl",A$):ON Q GOTO 1100,11
00,4100,4100
9070 GOSUB80:GOTO9060
59999 STOP
60000 PRINT"SAVING":SAVE"HBP.BAS
":END

```

☺☺

CORRECTION

Devilish Tricks

Here are some minor improvements to the "Devil Whist" program (Australian CoCo, December 1986, pages 53 & 54) which your readers may care to make as and when they are type in the listing:

* To avoid some rare FC errors change lines 2080, 2150, 2250, 2335 to read:

```

2080 K=K-1:GOSUB 1600:IFK$<"8" OR K=1 THEN
CC$(2)=K$+KK$:RETURN
2150 K=K-1:GOSUB1600:IF K$=T$ OR K=1 THEN
CC$(2)=K$+KK$:RETURN
2250 K=K-1:GOSUB1600:IF KK$<>T$ OR K=1 THEN
CC$(2)=K$+KK$:RETURN
2335 K=K-1:GOSUB1600:IF KK$=T$ OR K=1 THEN
CC$(2)=K$+KK$:RETURN

```

To check that you are not playing carelessly (or cheating!!) include the line:

```

202 IF S=2 AND INSTR(H$(1),KK$) AND
INSTR(CC$(1),KK$)=0 THEN SOUND 10,10:GOTO160

```

Finally you can get a better idea of the scoring by introducing a key wait at the end of each round. Thus relabel line 500 to be line 502 and include a line 500:

```

500 IF INKEY$="" THEN 500

```

I hope you enjoy the game anyway. I find it rather addictive.

Bob Delbourgo

Text Screen Tutor



32K ECB
EDUCATION

by Tom Lehane

TEXT SCREEN TUTOR'S primary aim is to test the student with a choice of subjects selected by the tutor. This can range from misspelt words, opposite of words, algebra, capital cities of the world to simple A B C. The program is not restricted to advanced students. This is achieved by the entry of chosen questions and answers by the tutor.

When you run the program and are in the menu mode of T.S.TUTOR, the first thing you need to do is make a file of questions and answers. Select item (2) and press ENTER - this takes you to a new screen.

ENTER the name of your test. For our example we will assume your test is for opposite words. Enter the title OPPOSITE. Next enter the subject's prompt. Type WHAT IS THE OPPOSITE OF and press enter. The next screen asks for a QUESTION, as an example enter UNCLE, following is a prompt for the ANSWER. Enter, AUNT. Continue entering your questions and answers for the chosen subject. When completed enter @ (at) to the next question prompt.

The program returns to the menu. It is best to save your DATA before going on. From the menu enter 4 for the SAVE function.

Notice you can save the data under its file name or choose a new file name. If the file name is more than 8 characters long the program abbreviates the name for tape or disk saving.

If you have previously saved data on tape or disk

this is loaded into memory by selecting one from the main menu.

All previously entered question prompts and file name are also loaded from the I/O device as the program uses the array Q\$(0) and A\$(0) to store this information. When you define an array, for example DIM A\$(10) there are actually 11 as the computer recognises zero as one of the arrays.

Once the data has been loaded you are ready to test your student. Enter 3 from the menu to start the test. The student is then asked 10 questions if the number of entries is more than 10 else T.S.TUTOR will ask the total of questions under 10 and will not repeat any questions in the same test.

You can end the test by entering @ at any time.

One special feature of T.S.T. is not shown on the menu screen, by entering 9 the tutor has the benefit to view all entered questions and answers to check for their accuracy. If any are not correct they can be deleted by entering the D key and re-entered from the main menu using (2) MAKE A NEW TEST OR QUIZ, the data in memory will not be erased.

The idea to leave the viewing of questions and answers from the menu is so the student can't peek at the answers when the tutor is not there to supervise. The program has numerous applications and should prove popular with parents coaching children for exams using their text books for questions and answers.

The Listing:

```
0 GOTO10
3 SAVE"135:3":END
10 REM * TEXT SCREEN TUTOR
20 REM *
30 REM * ENTER (9) FROM MENU TO
40 REM * VIEW OR DELETE A SINGLE
50 REM * FILE FROM MEMORY
60 REM *
70 CLS8:PRINT@39,"TEXT SCREEN TU
TOR";
80 GOSUB 1030
90 PRINT@96,"T.S.T. WILL MAKE A
TEST OF ANY"
100 PRINT"QUESTIONS AND ANSWERS
```

```
ENTERED BY THE TUTOR."
110 FOR X=1TO16:PRINT"*-";:NEXT
120 PRINT"TEXT SCREEN TUTOR KEEP
S A SCORE":PRINT"OF ALL RIGHT AN
D WRONG ANSWERS."
130 PRINT"PRINTED REPORT ON COMP
LETION"
140 PRINT TAB(4)"--ANY KEY TO CO
NTINUE="--
150 PRINT@388,CHR$(242)+CHR$(247
);
160 PRINT@421,CHR$(244);
170 PRINT@423,"BY TOM LEHANE 198
7";
180 IF INKEY$=""THEN180
190 CLEAR1000:DIM Q$(50),A$(50),
```

```
T(10)
200 F=50
210 GOTO 240
220 CLS8:PRINT@168,"--INPUT ERRO
R="--;
230 FOR TL=1 TO D:NEXT:RETURN
240 CLS:PRINT TAB(7)"TEXT SCREEN
TUTOR":PRINT TAB(7)STRING$(17,1
31)
250 PRINT"FILES IN MEM.."N
260 PRINT"FILE NAME...."A$(0)
270 PRINTSTRING$(32,131);
280 PRINT TAB(13)"menu"
290 PRINT
300 PRINT TAB(5)"1) LOAD A FILE
310 PRINT TAB(5)"2) MAKE A NEW T
```

```

EST OR QUIZ
320 PRINT TAB(5)"3" START A TEST
330 PRINT TAB(5)"4" SAVE TEST"
340 PRINT:PRINT TAB(5)"ENTER CHO
ICE";:INPUT A
350 ON A GOTO 380,540,810,1050
360 IF A=9 THEN 1400
370 D=500:GOSUB 220:GOTO240
380 CLS2:GOSUB 1030
390 GOSUB 1630
400 GOSUB 1030
410 PRINT TAB(6)"LOAD FILE FROM-
"DV$
420 PRINT:PRINT TAB(2)"TYPE FILE
NAME & PRESS ENTER"
430 PRINT TAB(2)"ENTER @ FOR MEN
U"
440 INPUT F$
450 IF F$="@" THEN 240
460 IF DV$="DISK" THEN F$=F$+"/D
AT"
470 OPEN"I",#DV,F$:N=0
480 PRINT@416,"FILES LOADING.."N
490 INPUT#DV,Q$(N)
500 INPUT#DV,A$(N)
510 IF EOF(DV)=-1 THEN 530
520 N=N+1:GOTO480
530 CLOSE#DV:GOTO240
540 CLS5
550 PRINT@64,"*ENTER @ TO BYPASS
THIS ENTERY*"
560 GOSUB 1030
570 PRINT"ENTER NAME OF TEST OR
QUIZ"
580 INPUT"->";ZZ$
590 IF ZZ$="@" THEN 610
600 A$(0)=ZZ$
610 GOSUB 1030
620 PRINT"ENTER THE QUESTION PRO
MT"
630 PRINT"example... WHAT IS"
640 PRINTTAB(11)"WHAT YEAR WAS"
650 PRINTTAB(6)"WHICH WORD IS SP
ELT WRONG"
660 INPUTZZ$
670 IF ZZ$="@" THEN 690
680 Q$(0)=ZZ$
690 CLS3:PRINT@38,"CREATE A TEST
OR QUIZ";
700 PRINT@386,"ENTER @ ON QUESTI
ON FOR menu";
710 PRINT@448,"FILES IN MEM."N;
720 PRINT@480,"AVAILABLE MEM"F-N
;
730 N=N+1:IF N=F THEN D=800:GOSU
B 1620:GOSUB 230:GOTO240
740 GOSUB 1030:PRINT"ENTER QUEST
ION"
750 INPUTZZ$
760 IFZZ$="@" THEN N=N-1:GOTO 240
770 Q$(N)=ZZ$

780 GOSUB 1030:PRINT"ENTER ANSWE
R"
790 INPUTA$(N)
800 GOTO 690
810 IF N=0 THEN 1050
820 CLS:PRINT TAB(6)"TEST SCREEN
TUTOR":PRINT"ENTER @ TO END TES
T"
830 PRINTSTRING$(31,131)
840 S=RND(N):FOR NO=1 TO N:IF T(
NO)=S THEN GOTO840ELSENEXT
850 PRINT"question":PRINTQ$(0)
860 PRINT
870 PRINTQ$(S):PRINT"answer"STR1
NG$(25,131)
880 INPUTX$
890 IF X$="@" THEN1250
900 IF X$=A$(S)THEN990
910 CLS8:PRINT"THE ANSWER IS ...
"
920 PRINTA$(S)
930 PRINTSTRING$(32,"-");
940 PRINT"YOUR ANSWER WAS ..."
950 PRINTX$
960 PRINT:PRINTSTRING$(31,"*")
970 PRINT:PRINT"PRESS ENTER TO C
ONTINUE";:INPUTZZ$
980 W=W+1:GOTO1010
990 D=800:PRINT"YOUR ANSWER IS C
ORRECT"
1000 R=R+1:GOSUB 230
1010 IF R+W=10 THEN1250
1020 L=L+1:T(L)=S:IF L>=N THEN 1
250 ELSE 820GOTO820
1030 FOR WIPE=320 TO 128 STEP-32
1040 PRINT@WIPE,"":NEXT:RETURN
1050 IF N=0THEND=900:CLS:PRINT"N
O FILES IN MEM":GOSUB 230:GOTO24
0
1060 F$=LEFT$(A$(0),8)
1070 CLS8:GOSUB 1030
1080 GOSUB 1630:GOSUB1030
1090 PRINT"SAVE FILE AS..."F$
1100 PRINTSTRING$(32,131)
1110 INPUT"(1=YES) (2=NO) (3=MEN
U)";B
1120 IF B=1 THEN 1160
1130 IF B=2 THEN 1220
1140 GOTO240
1150 IF DV$="DISK"THENF$=F$+"/DA
T"
1160 OPEN"O",#DV,F$
1170 FOR S=0 TO N
1180 PRINT@292,"FILES SAVING "S
1190 PRINT#DV,Q$(S)
1200 PRINT#DV,A$(S)
1210 NEXT:CLOSE#DV:GOTO240
1220 CLS6:GOSUB 1030:PRINT"ENTER
NEW FILE NAME"
1230 INPUT F$:F$=LEFT$(F$,8)
1240 GOSUB1030:GOTO1090

1250 CLS4:PRINT@9,"REPORT CARD";
1260 GOSUB 1030:PRINT"ANSWERED C
ORRECTLY"R
1270 PRINT:PRINT"INCORRECT ANSWE
RS"W
1280 PRINTSTRING$(32,131);
1290 PRINT"ANOTHER TEST (Y = YES
)"
1300 PRINT TAB(13)"(N = NO.)
1310 Z$=INKEY$:IFZ$=""THEN1310
1320 IF Z$="N"THEN240
1330 IF Z$="Y" THEN R=0:W=0:L=0
1340 IF Z$(">)" THEN 1310
1350 RESTORE
1360 FOR XO=1 TO 10
1370 T(XO)=VAL(CHR$(32))
1380 NEXT
1390 GOTO 820
1400 FOR S=1 TO N
1410 CLS:PRINT"QUESTION & ANSWER
..."S
1420 PRINTSTRING$(32,131);
1430 PRINT"QUESTION":PRINTQ$(0)
1440 PRINTQ$(S)
1450 PRINT
1460 PRINT"ANSWER"STRING$(25,131
)
1470 PRINTA$(S)
1480 PRINT@448,STRING$(32,140);
1490 PRINT@480," c =CONTINUE d =
DELETE m=MENU";
1500 I$=INKEY$:IF I$=""THEN1500
1510 IF I$="C" THEN NEXTS:GOTO240
1520 IF I$="D" THEN 1550
1530 IF I$="M" THEN 240
1540 GOTO 1500
1550 Q$(S)="" : A$(S)="" : K=S
1560 FOR XX=K TO N
1570 Q$(XX)=Q$(XX+1)
1580 A$(XX)=A$(XX+1)
1590 NEXTXX:N=N-1
1600 IF N<=0 THEN N=0:NEXTS
1610 GOTO 1410
1620 CLS:PRINT"FILE FULL":RETURN
1630 CLS2:GOSUB 1030
1640 PRINTTAB(3)"ENTER DEVICE FO
R DATA I/O"
1650 PRINT:PRINTTAB(6)"1> TAPE I
NPUT-OUTPUT"
1660 PRINTTAB(6)"2> DISK INPUT-O
UTPUT"
1670 INPUT"--->";P
1680 IF P<1 OR P>2 THEN 1670
1690 IFP=1 THEN DV=-1:DV$="TAPE"
1700 IFP=2 THEN DV=1:DV$="DISK"
1710 RETURN

```

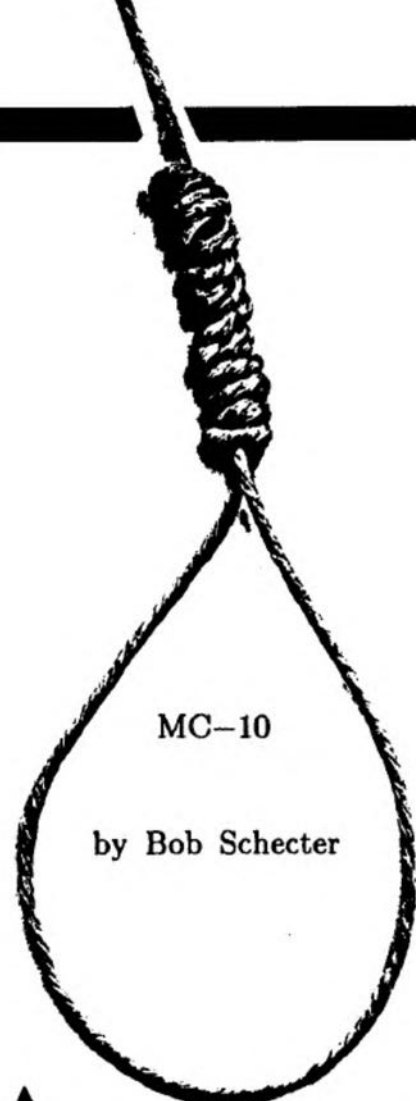
**It's
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DS DD 5 1/4" Disks...

GOLDSOFT. P.O. BOX 1742,
SOUTHPORT, 4215.

\$20 A
Box

HANGMAN



MC-10

by Bob Schecter

Another Hangman game but a variation on all graphics and has more the appearance of an arcade game than most other programs. Well worth keying in.

The Listing HANGMAN:

```

1 REM *****
2 REM * RESTORIV *
3 REM * DRIVER FOR RESTORES *
4 REM * *
5 REM * BOB SCHECTER ,1985 *
6 REM * RD 1 BOX 127A *
7 REM * CHERRY VALLEY,NY13320 *
8 REM * *
9 REM *****
10 CLEAR600: DIMWD$(200),L$(26,4)
:CLS0:REM...MC-10..ADD..MC=1536
0
15 MC=15360
100 GOSUB1600: SOUND150,2: SOUND15
0,2: SOUND175,3
110 R$=" SPELL THE WORD ":F
ORP=0T02
120 PRINT@25+P*32,MID$(R$,P*7+1,
7):NEXT
130 PRINT@155," OR ":R$=" HANG
THE MAN ":FORP=0T02
140 PRINT@250+P*32,MID$(R$,P*6+1
,6):NEXT:FORP=1T04: SOUND90,2:80
UND75,2: SOUND120,3:NEXT
150 FORX=1T08: ONXGOSUB600,650,70
0,750,800,850,900,950
160 SOUND30,1: SOUND30,1: SOUND10,
3:NEXT
170 PRINT@460,"BOB SCHECTER ,198
5";
200 FORP=1T026: FORN=1T04: FORC=1T
03: READX:L$(P,N)=L$(P,N)+CHR$(X)
210 NEXTC:NEXTN: SOUNDND(250),1:

```

```

NEXTP
220 B$=CHR$(128)+CHR$(128)+CHR$(
128): B1$=B$+B$+B$+B$
270 P=0
280 READR$: IFR$="***"THENHW=P: GO
T0300
290 P=P+1: WD$(P)=R$: GOT0280
300 GOSUB1600
380 X=RND(NM): G$=WD$(X): L=LEN(G$
): T=0
390 FORP=1T0L: X=P*2: PRINT@490+X,
"-": SOUND50,1:NEXT
400 GOSUB1380: PRINT@25," GUESS "
:PRINT@59," A ":PRINT@88," LET
TER ";
410 C=0
420 FORP=1T03: SOUND50,1: SOUND50,
1: SOUND150,3:NEXT
430 R$=INKEY$: IFR$=""THEN430
440 X=ASC(R$): IFX<65ORX>90THEN43
0
450 SOUND200,3: FORP=1T04: PRINT@2
20+P*32,L$(X-64,P):NEXT
460 FORP=0T02: FORN=24T031: PRINT@
N+P*32,CHR$(128):NEXTN:NEXTP
470 FORP=1T0L: X$=MID$(G$,P,1): IF
NOTX$=R$THEN490
475 N=P*2: IFPEEK(1482+MC+N)=XTHE
NC=1: GOT0490
480 PRINT@458+N,R$: SOUND150,3: C
=1: T=T+1
490 NEXT: IFT=LTHEN1500
500 IFC=1THEN400
510 D=D+1: FORP=1T03: SOUND25,1: SO
UND15,1: SOUND10,3:NEXT
520 ONDGOSUB600,650,700,750,800,
850,900,950
530 IFD=8THEN1000
540 GOT0400
600 FORP=2T04: FORN=14T017: SET(N,
P,5):NEXTN:NEXTP
610 SET(15,5,5): SET(16,5,5): RETU
RN
650 SET(15,6,8): SET(16,6,8)
660 FORP=7T015: FORN=13T018: SET(N
,P,8):NEXTN
670 IFP>7ANDP<14THENSET(12,P,8):
SET(15,7,8)
680 NEXTP: RETURN
700 SET(12,7,8): FORP=7T09: SET(11
,P,8):NEXT
710 FORP=8T010: SET(10,P,8):NEXT
720 FORP=9T012: SET(9,P,8):NEXT
730 FORP=10T015: SET(8,P,8):NEXT:
SET(8,16,5)
740 FORP=12T015: SET(7,P,8):NEXT:
RETURN
750 SET(19,7,8): FORP=7T09: SET(20
,P,8):NEXT
760 FORP=8T010: SET(21,P,8):NEXT
770 FORP=9T012: SET(22,P,8):NEXT
780 FORP=10T015: SET(23,P,8):NEXT
:SET(23,16,5)
790 FORP=12T015: SET(24,P,8):NEXT
: RETURN
800 FORP=16T019: FORN=13T015: SET(
N,P,3):NEXTN
810 IFP>17THENSET(12,P,3)
820 NEXTP: FORP=20T027: FORN=12T01
4: SET(N,P,3)
830 NEXTN:NEXTP: RETURN
850 FORP=16T019: FORN=16T018: SET(
N,P,3):NEXTN
860 IFP>17THENSET(19,P,3)
870 NEXTP: FORP=20T027: FORN=17T01

```

```

9: SET(N,P,3)
880 NEXTN:NEXTP: RETURN
900 FORP=28T031: FORN=14T012STEP-
1: SET(N,P,2):NEXTN
910 IFP>29THENSET(11,P,2): SET(10
,P,2)
920 NEXTP: RETURN
950 FORP=28T031: FORN=17T019: SET(
N,P,2):NEXTN
960 IFP>29THENSET(20,P,2): SET(21
,P,2)
970 NEXTP: RETURN
1000 SOUND50,4: GOSUB1400: SOUND50
,4: GOSUB1400: SOUND50,1: GOSUB1400
: SOUND50,3: GOSUB1400
1010 SOUND80,4: GOSUB1400: SOUND70
,1: GOSUB1400: SOUND70,3: GOSUB1400
1020 SOUND50,1: GOSUB1400: SOUND50
,3: GOSUB1400: SOUND40,1: GOSUB1400
: SOUND50,5
1045 GOSUB1380
1050 FORP=1T0L: X=P*2: PRINT@426+X
,"-": SOUND55-P*5,3: IFPEEK(1482+
MC+X)<>143THEN1070
1060 C=ASC(MID$(G$,P,1)): PRINT@4
58+X,CHR$(C+32)
1070 FORN=1T0500: NEXTN:NEXTP
1080 FORP=1T0500: NEXT: FORP=1T0L:
X=P*2: PRINT@458+X,MID$(G$,P,1):
NEXT: GOT01900
1100 DATA225,233,128,235,227,234
,234,128,234,232,128,232
1110 DATA238,236,226,235,227,232
,234,128,234,236,236,128
1120 DATA230,236,226,234,128,128
,234,128,226,228,236,128
1130 DATA238,233,128,234,128,234
,234,225,232,236,232,128
1140 DATA238,236,232,235,227,128
,234,128,128,236,236,232
1150 DATA238,236,232,235,227,128
,234,128,128,232,128,128
1160 DATA230,236,226,234,128,128
,234,228,234,228,236,232
1170 DATA234,128,234,235,227,234
,234,128,234,232,128,232
1180 DATA228,238,128,128,234,128
,128,234,128,228,236,128
1190 DATA128,237,232,128,229,128
,226,229,128,228,232,128
1200 DATA234,225,232,235,232,128
,234,233,128,232,128,232
1210 DATA239,128,128,239,128,128
,239,128,128,236,236,232
1220 DATA235,225,234,234,234,234
,234,128,234,232,128,232
1230 DATA234,128,234,238,226,234
,234,228,234,232,128,232
1240 DATA230,236,226,234,128,234
,234,128,234,228,236,128
1250 DATA238,236,226,235,227,232
,234,128,128,232,128,128
1260 DATA230,236,226,234,128,234
,234,233,234,228,236,232
1270 DATA238,236,226,235,227,232
,234,233,128,232,128,232
1280 DATA230,236,226,233,227,128
,226,128,234,228,236,128
1290 DATA236,238,232,128,234,128
,128,234,128,128,232,128
1300 DATA234,128,234,234,128,234
,234,128,234,228,236,128
1310 DATA234,128,234,233,225,232
,228,230,128,128,232,128

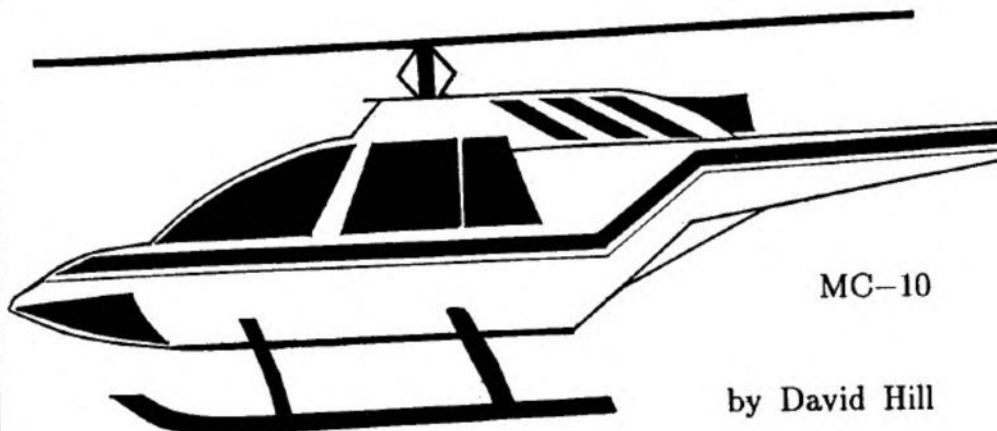
```

```

1320 DATA234,128,234,234,226,234
,235,233,234,232,128,232
1330 DATA234,128,234,228,230,128
,230,228,226,232,128,232
1340 DATA234,128,234,228,230,128
,128,234,128,128,232,128
1350 DATA236,236,234,128,230,128
,230,128,128,236,236,232
1380 FORP=252T0348STEP32:PRINT@P
,B#):NEXT:RETURN
1400 FORP=1T0100:NEXT:RETURN
1500 FORP=1T03:SOUND30,1:SOUND80
,1:SOUND50,1:SOUND150,1:SOUND150
,3:NEXT
1510 GOSUB1380:FORP=16T0368STEP6
4:PRINT@P," THAT'S IT! ";
1520 FORN=1T02:SOUND80,1:SOUND10
0,1:SOUNDP/2,2:NEXTN
1530 PRINT@P,B#):NEXTP
1540 PRINT@368," !! YOU WIN !! "
:/GOTO1900
1600 CLS0:FORP=25T00STEP-1:SET(4
5,P,4):SET(44,P,4):NEXT
1610 FORP=46T015STEP-1:SET(P,0,4
):SET(P,1,4):NEXT
1620 FORP=22T063:FORN=26T031:SET
(P,N,1):NEXTN:NEXTP:D=0:RETURN
1900 G#=" TO PLAY AGAIN " :R#=" P
RESS <ENTER> "
1910 FORP=1T016:PRINT@8,LEFT#(G#
,P);
1920 PRINT@40,LEFT#(R#,P):SOUND
90+P*10,1:NEXT
1930 R#="INKEY#":IFR#=""THEN1930
1940 X=ASC(R#):IFX=13THEN300
1950 CLS:END
2000 DATAAPPLE,ADDITION,AIRPLANE
,ALPHABET,ABOUT,ARTICLE,ASLEEP,A
VALANCH
2010 DATABOTTLE,BALLOON,BANANA,B
ASKET,BLACKBOARD,BRIDGE,BROTHER,
BLIZZARD
2020 DATACHICKEN,CANDLE,COMET,CL
OWN,CARTOON,CABOOSE,CARROT,CATTL
E
2030 DATADOUGHNUIT,DOCTOR,DISHES,
DREAM,DOZEN,DRINK
2040 DATAREVERYTHING,ENTERTAIN,EN
ERGY,EMPTY,EARLY,ENTRANCE
2050 DATAFASTER,FANTASTIC,FAIRY,
FENCE,FAMILY,FINGER,FRIEND,FRUIT
2060 DATAGARDEN,GARBAGE,GIANT,GI
RAFFE,GUESS,GROUND
2070 DATAHAMMER,HAPPY,HEART,HEAV
Y,HONEY,HUNGRY
2080 DATAINDIAN,INSECT,ICICLE
2090 DATAJACKET,JUNGLE,JUICE
2100 DATAKITTEN,KNOCK,KNIFE
2110 DATALADDER,LAUGH,LETTER,LIB
RARY,LEARN,LIGHT,LUNCH,LITTLE
2120 DATANITTEN,MACHINE,MAGIC,MA
RRLE,MIDNIGHT,MINUTE,MILLION,MON
EY,MOTHER,MOVIE
2130 DATANEVER,NEWSPAPER,NIGHT,N
ORTH,NUMBER
2140 DATAOFFICE,OTHER
2150 DATAPACKAGE,PALACE,PAJAMAS,
PENCIL,PEPPER,PEOPLE,PIANO,PHONE
,PITCHER,PLEASE,PUZZLE
2160 DATAQUART,QUEEN,QUESTION,QU
IET
2170 DATARABBIT,RAINCOAT,RADIO,R
ANCH,REMEMBER,ROOSTER,ROCKET
2180 DATASADDLE,SANDWICH,SCISSOR
S,SCRATCH,SEVEN,SEASON,SHADOW,SH
OUT,STATION,SWEATER,SPIDER,SKATE
2190 DATATASTE,TELEPHONE,TELEVIS
ION,THANK,THINK,THREAD,TONGUE,TR
AIN,TURTLE,TURKEY
2200 DATAUNDERWEAR
2210 DATAVACATION,VALENTINE,VALL
EY,VILLAGE,VIOLIN
2220 DATAWALRUS,WATCH,WEIGH,WHIC
H,WHISPER,WHITE,WOMAN
2230 DATAYOUNG,YELLOW
2240 DATAZIPPER,ZEPHA
5000 DATA ***

```

CHOPPER



MC-10

by David Hill

A very good program in graphics from which I think a lot can be learned by the study of this listing.

The Listing CHOPPER:

```

1 REM *****
2 REM *** CHOPPER ***
3 REM *** BY DAVID HILL ***
4 REM *****
5 CLS0
10 FORP=0T012:SET(R,0,4):NEXT:FORR=0T031:SET(0,R,4):NEXT:FORR=0T063:SET(R,31,4):NEXT:FORR=0T031:SET(63,R,4):NEXT
20 FORR=0T063:SET(R,0,4):NEXT
30 FORR=22T049:SET(R,29,1):NEXT:FORR=19T021:SET(R,28,1):NEXT:SET(30,28,1):SET(41,28,1):FORR=17T018:SET(R,27,1):NEXT
40 SET(30,27,1):SET(41,27,1):SET(16,26,1):SET(30,26,1):SET(41,26,1):FORR=27T043:SET(R,25,3):NEXT
R:FORR=25T030:SET(R,24,3):NEXT
50 SET(34,24,3):SET(38,24,3):SET(40,24,3):SET(42,24,3):FORR=44T046:SET(R,24,3):NEXT:FORR=23T031:SET(R,23,3):NEXT:SET(34,23,3)
60 SET(42,23,3):SET(44,23,3):FORR=46T048:SET(R,23,3):NEXT:FORR=22T032:SET(R,22,3):NEXT:FORR=34T042:SET(R,22,3):NEXT
70 SET(45,22,3):SET(49,22,3):SET(22,21,3):FORR=27T032:SET(R,21,3):NEXT:SET(46,21,3):FORR=50T051:SET(R,21,3):NEXT:SET(22,20,3)
80 SET(25,20,3):FORR=28T030:SET(R,20,8):NEXT:SET(32,20,3):SET(47,20,3):FORR=51T053:SET(R,20,3):NEXT:SET(57,20,2):SET(59,20,2)
90 SET(31,21,3):SET(22,19,3):SET(25,19,3):FORR=28T029:SET(R,19,8):NEXT:SET(33,19,3):SET(48,19,3)

```

```

):SET(50,19,3)
100 FORR=54T055:SET(R,19,3):NEXT
R:SET(58,19,2):SET(23,18,3):FORR=26T029:SET(R,18,8):NEXT:SET(33,18,3):SET(49,18,3)
110 FORR=56T058:SET(R,18,2):NEXT
R
120 SET(23,17,3):FORR=28T029:SET(R,17,8):NEXT:SET(34,17,3):SET(48,17,3):SET(50,17,3):FORR=54T055:SET(R,17,3):NEXT
130 SET(58,17,2):SET(23,16,3):SET(29,16,8):FORR=36T037:SET(R,16,3):NEXT:SET(40,16,3):SET(47,16,3):FORR=51T053:SET(R,16,3):NEXT
140 SET(57,16,2):SET(59,16,2):SET(24,15,3):FORR=28T030:SET(R,15,8):NEXT:SET(34,15,3):SET(36,15,3):SET(38,15,3)
150 FORR=13T016:SET(36,R,5):NEXT
R:SET(37,13,5):SET(37,16,5):FORR=14T015:SET(38,R,5):NEXT:FORR=13T016:SET(40,R,5):NEXT
160 FORR=14T015:SET(41,R,5):NEXT
R:FORR=13T016:SET(42,R,5):NEXT
170 SET(34,16,3)
180 SET(46,15,3):SET(50,15,3):SET(51,15,3):SET(25,14,3):FORR=28T030:SET(R,14,8):NEXT:SET(34,13,3):SET(45,14,3):SET(48,14,3)
190 SET(49,14,3):SET(26,13,3):FORR=28T029:SET(R,13,8):NEXT:SET(34,13,3):SET(44,13,3):SET(46,13,3):SET(47,13,3)
200 SET(34,14,3):SET(30,13,8)
201 SET(25,21,3)
210 SET(27,12,3):SET(34,12,3):FORR=44T045:SET(R,12,3):NEXT:FORR=28T034:SET(R,11,3):NEXT:SET(43,11,3)
220 FORR=34T042:SET(R,10,3):NEXT
R:SET(38,9,3):FORR=15T037:SET(R,8,2):NEXT:FORR=39T060:SET(R,8,2):NEXT:SET(38,7,3)
230 SET(38,7,5)
240 FORR=0T01999:NEXTZ
250 CLS:END

```

SLOT MACHINE



by Sean Lowe 16K ECB GAME

DURING THE HOLIDAYS I made a program called 'Slot Machine'. All you do is put in coins, pull the lever and try to hit the jackpot. If you get two of a kind, you get 10 times the value of the figures. eg, Jacks = 2 times, \$ = 4 times etc. If, however, the figures are dots, you lose money. Good luck!

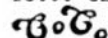
The Listing:

```
0 'SLOT MACHINE
1 CLEAR50
2 POKE280,PEEK(275)
5 MN=RND(30)+30
7 CLS:PRINT"# WOULD YOU LIKE INS
TRUCTIONS. # ..(Y/N).."
8 I$=INKEY$
9 IF I$="Y" THEN 7000 ELSE IF I$="N" T
HENGOSUB4000 ELSE IF I$("<")="" THEN 8
10 CLS0
1000 S=30
1001 POKE65495,0
1005 S=S+1:SET(S,3,2):SET(S,6,2)
:IFS=46 THEN 1010 ELSE GOTO 1005
1010 SET(31,4,2):SET(31,5,2):SET
(46,4,2):SET(46,5,2):SET(54,6,2)
:SET(23,6,2):SET(58,10,3):SET(58
,11,3):SET(59,11,3):SET(59,10,3)
1015 FOR S=12 TO 22:SET(59,S,6):NEX
T
1020 FOR S=22 TO 55:SET(S,7,3):SET(
S,18,3):NEXT
1025 FOR S=8 TO 18:SET(21,S,3):SET(
56,S,3):NEXT
1030 FOR S=23 TO 54:SET(S,9,4):SET(
S,16,4):NEXT
1035 FOR S=9 TO 16:SET(23,S,4):SET(
54,S,4):NEXT
1040 FOR S=19 TO 31:SET(22,S,3):SET
(55,S,3):NEXT:SET(58,22,6):SET(5
7,22,6):SET(56,21,3):SET(56,22,3
):SET(56,23,3)
1045 FORT=48 TO 50:SET(T,22,5):NEX
T:SET(25,20,5):SET(25,21,5):FOR S
=25 TO 45:SET(S,22,5):NEXT:SET(45,
21,5):SET(45,20,5)
1050 PRINT@80,"dollar";:POKE1110
,36
1055 PRINT@1,"OF A KIND";:PRINT@
34,"4 = 50$";:PRINT@66,"3 = 20$";
:PRINT@98,"2 = 10$";:PRINT@130,
"A = 3$";
```

```
1060 PRINT@195,"VALUE";:PRINT@22
6,"$ = 4X$";:PRINT@258,"A = 3X$";
:PRINT@290,"K = 3X$";:PRINT@322
,"Q = 2X$";:PRINT@354,"J = 2X$";
:PRINT@386,"? = $";
1061 PRINT@418,CHR$(159)+CHR$(17
5)+CHR$(191);" = $";:PRINT@450,"
0>9 = $";:PRINT@481,"* = -1.5X$";
1065 PRINT@462,"CASH $";MN;
1070 FOR S=25 TO 52:SET(S,11,7):SET
(S,14,7):NEXT:PRINT@204,CHR$(229
);:FORT=206 TO 214 STEP 4:PRINT@T,C
HR$(239)+CHR$(239)+CHR$(239);:NE
XT:PRINT@218,CHR$(234);
1500 I$=INKEY$:IF I$="P" THEN GOSU
B6000 ELSE IF I$("<")="" THEN 1500
1999 POKE65495,0
2000 RESTORE:X=RND(23):FORT=1 TO X
:READA:NEXT:POKE1229,A:IF INKEY$="
"S" THEN POKE1229,A ELSE GOTO 2000
2010 RESTORE:X=RND(23):FORT=1 TO X
:READB:NEXT:POKE1233,B:IF INKEY$="
"S" THEN POKE1233,B ELSE GOTO 2010
2030 RESTORE:X=RND(23):FORT=1 TO X
:READC:NEXT:POKE1237,C:IF INKEY$="
"S" THEN POKE1237,C ELSE GOTO 2030
2040 RESTORE:X=RND(23):FORT=1 TO X
:READD:NEXT:POKE1241,D:IF INKEY$="
"S" THEN POKE1241,D ELSE GOTO 2040
2050 POKE65494,0
2100 GOTO 10000
4000 CLS:FORT=0 TO 31:PRINT@T,"#";
:NEXT:FORT=32 TO 447 STEP 32:PRINT
@T,"#";:NEXT:FORT=63 TO 479 STEP 32
:PRINT@T,"#";:NEXT:FORT=448 TO 479
:PRINT@T,"#";:NEXT:PRINT@34,"YOU
R 'CASH IN HAND' FOR THIS";:PRIN
T@66,"GAME IS.....";
4005 PLAY"L250V701;1;2;3;4;5;6;7
;8;9;10;11;12;P802V10;1;2;3;4;5;
6;7;8;9;10;11;12;03P8V12;1;2;3;4
;5;6;7;8;9;10;11;12;04P8V15;1;2;
3;4;5;6;7;8;9;10;11;12;05V31P3;1
2;11;10;9;8;7;6;5;4;3;2;1
4007 PRINT"$ ";MN;
4008 FORT=1 TO 2000:NEXT
4010 RETURN
5000 DATA 191,175,42,159,63,57,5
6,55,54,53,52,42,51,50,49,42,48,
17,36,11,10,42,1
6000 POKE65495,0
6001 IF MN<0 THEN GOTO 15000
6003 IF MN>399 THEN GOTO 14500
6004 GOTO 12000
6005 FORT=1 TO 6:PRINT@(157+(32*T)
),CHR$(128);:PRINT@(189+(32*T)),
CHR$(175);:FORT=1 TO 150:NEXT TT:
NEXTT
6007 FORT=1 TO 300:NEXT
6010 PRINT@381,CHR$(128);:FORT=5
```

```
TO1 STEP-1:PRINT@(189+(32*T)),CH
R$(213);:PRINT@(157+(32*T)),CHR$
(175);:FORT=1 TO 150:NEXT TT:NEXT
T:PRINT@381,CHR$(220);
6015 POKE65494,0
6020 RETURN
7000 CLS:PRINT@10,"SLOT MACHINE"
:PRINT"THIS IS THE SAME AS ANY O
THER SLOT MACHINE. YOU MUST T
RY AND HIT THE JACKPOT." :PRINT" T
O START UP THE MACHINE, YOU P
RESS [P] TO PUT IN A DOLLAR C
OIN AND TO PULL THE LEVER."
7010 PRINT"TO STOP EACH OF THE S
LOTS, YOU PRESS THE [S] BUTTOM.
"
7020 PRINT:PRINT"THE AMOUNT OF M
ONEY YOU RECIEVE FOR EACH GAME I
S TOTALLY RANDOM. PRESS [S] TO S
TART...
7050 I$=INKEY$:IF I$="S" THEN I$="N
":GOTO 9
7060 IF I$("<")="" THEN 7050
10000 IF ((A=B) AND (B=C) AND (
C=D)) THEN GOTO 11000
10001 IF ((A=B) AND (A=C)) OR (
(A=C) AND (A=D)) OR ((B=C) AN
D (B=D)) OR ((A=B) AND (A=D))
THEN GOTO 11010
10002 IF ((A=B) OR (A=C) OR (A=
D) OR (B=C) OR (B=D) OR (C=D))
THEN GOTO 11020
10003 IF A=1 OR B=1 OR C=1 OR D=
1 THEN MN=MN+3 ELSE MN=MN
10005 GOTO 1065
11000 W=A:GOSUB 11111
11001 FORT=1 TO 7:SET(23,5,2):SET(
54,5,2):PLAY"L160;05;1;2;3;4;5;6
;7;8;9;10;11;12":RESET(23,5):RES
ET(54,5):FORT=1 TO 100:NEXT TT:NE
XTT
11002 MN=MN+(50*Z):GOTO 1065
11010 IF ((B=C) AND (C=D)) THEN
W=B ELSE W=A:GOSUB 11111
11011 FORT=1 TO 4:SET(23,5,2):SET(
54,5,2):SOUND180,2:RESET(23,5):R
ESET(54,5):FORT=1 TO 100:NEXT TT:
NEXTT
11012 MN=MN+(20*Z):GOTO 1065
11020 IF (C=D) THEN W=C ELSE IF ((
B=C) OR (B=D)) THEN W=B ELSE W=A
11021 GOSUB 11111:FORT=1 TO 3:SET(2
3,5,2):SET(54,5,2):SOUND181,2:RE
SET(23,5):RESET(54,5):FORT=1 TO 1
00:NEXT TT:NEXTT
11022 MN=MN+(10*Z):GOTO 1065
11111 IF W=1 THEN Z=3 ELSE IF W=36
THEN Z=4 ELSE IF W=11 THEN Z=3 EL
SE IF W=10 OR W=17 THEN Z=2 ELSE IF
W=42 THEN Z=-1.5 ELSE Z=1
11112 RETURN
12000 SET(49,21,2):SOUND150,1:FO
RT=1 TO 800:NEXT:RESET(49,21):PLAY
"L10005;12;11;10;9;8;7;6;5;4;3;2
;1;03;12;11;10;9;8;7;6;5;4;3;2;1
"
12002 MN=MN-1
12003 PRINT@462,"CASH $";MN;
12005 GOTO 6005
14500 POKE65494,0:CLS:PRINT"YOU
HAVE BROKEN THE BANK... YOU
HAVE WON.....":FORT=1 TO 2000:NE
XTT
15000 CLS:PRINT"GAME OVER....."

```



STANDARD

By Ron Barnes

32K ECB

I CALL THIS program "STANDARD" and it has developed from one which could only print results to the screen (mainly because I didn't have a printer) to the one listed below.

Even after I converted it to print a hard copy (the codes are for the DMP 110) it had a major shortcoming. If you made a mistake in entering class marks, there was no way of correcting it. You just had to start again from the beginning of the class.

I owe a lot to sample programmes in "Getting Started With Extended Colour Basic" for ideas, which I simply adapted for my own purposes.

- The menu gives five choices:
- input marks
 - print marks to the screen for checking
 - correct errors
 - standardise marks
 - print a hard copy

After you make your choice, instructions are given on the screen and you should have no trouble. You also get a choice of standardising to an integer or to one or two decimal places.

Oh, sorry, there's no way to overtype errors when inputting marks. I haven't discovered how to move the cursor around the screen yet.

The Listing:

```
1 *****"STANDARD"*****
2 *****RON BARNES, FORBES*****
3 *****SEPTEMBER 1986*****
4 GOTO10
5 SAVE"131:3":END
10 CLEAR 5000
15 DIM M(100), E(100), A(100), N
   $(100)
20 CLS
25 PRINT "THIS PROGRAMME TAKES E
XAM MARKS AND STANDARDISES THEM
TO A GIVEN MEAN AND STANDARD DEVI
ATION."
30 PRINT@166,"DO YOU WANT TO ...
"
35 PRINT@198,"(1) INPUT MARKS"
40 PRINT@230,"(2) PRINT MARKS TO
THE"
45 PRINT@266,"SCREEN FOR CHECKIN
G"
50 PRINT@294,"(3) CORRECT ERRORS
"
55 PRINT@326,"(4) STANDARDISE MA
RKS"
60 PRINT@358,"(5) PRINT A HARD C
OPY"
65 PRINT@430,"(1-5)"
70 INPUT C
75 IF C<1 OR C>5 THEN 30
80 ON C GOSUB 1000,2000,3000,400
0,5000
85 GOTO20
1000 Y=1
1005 CLS
1010 INPUT "NAME OF GROUP";G$
1015 INPUT "NUMBER IN GROUP";N
1020 INPUT "MAXIMUM MARK REQUIRE
D";H
1025 INPUT "REQUIRED MEAN";R
1030 INPUT "REQUIRED S.D.";D
1035 PRINT:PRINT
1040 PRINT "TYPE IN MARKS"
1045 PRINT
1050 FOR X=1 TO N
1055 PRINT "NAME ";
1060 PRINT USING "###";Y;
1065 INPUT N$(X)
1070 PRINT "MARK ";
1075 PRINT USING "###";Y;
1080 INPUT M(X)
1085 Y=Y+1
1090 NEXT X
1095 RETURN
2000 CLS:FOR X=1 TO Y-1 STEP 15
2005 FOR I=X TO X+14
2010 IF N$(I)="" THEN 2025 ELSE
2015
2015 PRINT USING "### ";I;
2020 PRINT N$(I);M(I)
2025 NEXT I
2030 INPUT " PRESS <ENTER> TO
CONTINUE";C$
2035 NEXT X
2040 RETURN
3000 CLS:PRINT@9,"CORRECT ENTRIE
S"
3005 PRINT@67,"PRESS <ENTER> WHE
N FINISHED"
3010 J=0
3015 PRINT
3020 INPUT "NUMBER OF INCORRECT
ENTRY";J
3025 PRINT@196, N$(J),M(J)
3030 IF J=0 THEN RETURN
3035 PRINT@260, "TYPE CORRECT NA
ME & MARK"
3040 PRINT@292, "PRESS <ENTER> A
FTER EACH"
3045 INPUT N$
3050 INPUT M
3055 N$(J)=N$
3060 M(J)=M
3065 GOTO 3000
4000 CLS: T=0: Z=0: F=0: V=0
4005 PRINT@163, "DO YOU WANT ROU
ND OFF TO ..."
4010 PRINT@229,"(1) AN INTEGER"
4015 PRINT@261,"(2) ONE DECIMAL
PLACE"
4020 PRINT@293,"(3) TWO DECIMAL
PLACES?"
4025 PRINT@365,"(1-3)"
4030 INPUT Q
4035 FOR X=1 TO N
4040 T=T+M(X)
4045 P=M(X)*M(X)
4050 Z=Z+P
4055 NEXT X
4060 A=T/N
4065 S=SQR(Z/N-A*A)
4070 FOR X=1 TO N
4075 E(X)=M(X)-A
4080 A(X)=(A+E(X)*D/S)+(R-A)
4085 IF Q=1 THEN 4100
4090 IF Q=2 THEN 4110
4095 IF Q=3 THEN 4120
4100 A(X)=INT(A(X)+0.5)
4105 GOTO4130
4110 A(X)=(INT((A(X)+0.05)*10))/
10
4115 GOTO4130
4120 A(X)=(INT((A(X)+0.005)*100)
)/100
4125 GOTO4130
4130 IF A(X)>H THEN A(X)=H
4135 NEXT X
4140 RETURN
5000 PRINT#-2:PRINT#-2:PRINT#-2:
PRINT#-2
5005 PRINT#-2,CHR$(27)CHR$(19);T
AB(10)G$
5010 PRINT#-2
5015 PRINT#-2,TAB(10)"EXAM MEAN
="A
5020 PRINT#-2,TAB(10)"EXAM STAND
ARD DEV ="S
5025 PRINT#-2,TAB(10)"REQUIRED M
EAN ="R
5030 PRINT#-2,TAB(10)"REQUIRED S
TANDARD DEV ="D
5035 PRINT#-2:PRINT#-2
5040 PRINT#-2,TAB(10)"NAME"TAB(3
2)"RAW EXAM"TAB(45)"ST EXAM"
5045 PRINT#-2
5050 FOR X=1TON
5055 PRINT#-2,USING" %
%;N$(X);
5060 IF Q=1 THEN 5075
5065 IF Q=2 THEN 5085
5070 IF Q=3 THEN 5095
5075 PRINT#-2,USING"###
";M(X),A(X)
5080 GOTO5105
5085 PRINT#-2,USING"###.#
";M(X),A(X)
5090 GOTO5105
5095 PRINT#-2,USING"###.##
";M(X),A(X)
5100 GOTO5105
5105 NEXT X
5110 CLS:PRINT" DO YOU WISH TO
PRINT ANOTHER"
5115 PRINT" COPY? (Y/N)
"
5120 INPUT W$
5125 IF W$="Y" THEN 5000 ELSE 51
30
5130 FOR X=1 TO N
5135 M(X)=0:E(X)=0:A(X)=0:N$(X)=
""
5140 NEXT X
5145 RETURN
```

CoCo



Shopping List

by Dean Hodgeson
32K ECB
EDUCATION

SHOPPING LIST IS sort of a crazy program. My wife, Lorraine, asked me for this one. The program generates a shopping list. It puts general shopping items on the screen one at a time. You answer Y if you want it on the list or N if you don't.

At the end, you can add things to the list. We've found it helps us remember to get things we'd otherwise forget. Other people will, of course, want to change the DATA.

Each section of the list begins with a heading and ends with three stars. The whole list ends with three dashes.

Watch out for spelling mistakes!

The Listing:

```
0 GOTO10
1 ** SHOPPING LIST GENERATOR **
2 ***** BY DEAN HODGESON *****
3 SAVE"102:3":END
10 RESTORE:Q=0:PRINT#-2," ";
20 CLS
30 READ H$:IFH$="---"THEN300
40 CLS:PRINT@416,H$:N=0
45 READ R$:IFR$="***"THEN30
50 PRINT@480,LEFT$(R$+.....
.....,27);
60 A$=INKEY$:IF A$<>"Y"AND A$<>"N"
AND A$<>" "AND A$<>CHR$(13)THEN60
70 IF A$="N"OR A$=CHR$(13)THENPRINT:GOTO100
75 PRINT" "
80 PRINT#-2,LEFT$(R$+"
",25);
90 Q=Q+1:IFQ=3 THENPRINT#-2:Q=0:
PRINT#-2," ";
100 GOTO45
300 CLS:PRINT"DO YOU WANT TO ADD
```

ANYTHING ELSE TO THE SHOPPING LIST?"

```
310 INPUT$
320 IF LEFT$(A$,1)="N" THEN 500
330 IF LEFT$(A$,1)<>"Y" THEN 300
340 CLS:PRINT"TYPE IN WHAT YOU WANT TO ADD. PRESS THE ENTER KEY AFTER EACH ITEM. TYPE '@@@' AND PRESS ENTER WHEN YOU ARE FINISHED.":PRINT
350 INPUT$:IF A$="@@@" THEN 300
360 PRINT#-2,LEFT$(A$+"
",25);
```

```
370 Q=Q+1:IFQ=3 THENPRINT#-2:Q=0
380 GOTO350
500 PRINT#-2,CHR$(13)
510 CLS:END
1000 DATA MEAT,MINCE,SCHNITZEL,HAMBURGERS,CHICKEN,SLICED HAM,SLICED CHICKEN,SLICED BEEF,BACON,PORK,LAMB,BEEF,ROAST,BEEF HEART,STEAK,FISH,FISH FINGERS,HAMBURGER PATTIES,SAUSAGES
```

```
1009 DATA ***
1010 DATA FRESH FRUIT,BANANAS,CANTALOPE,WATERMELON,APPLES,ORANGES,CUCUMBER,STRAWBERRIES,PEARS
1019 DATA ***
1020 DATA VEGETABLES,TOMATOES,LETTUCE,FROZEN CORN COBBS,GREEN BEANS,GREEN PEAS,MIXED VEG,POTATOES,CARROTS,BROCCOLI,CAULIFLOWER,CABBAGE
1029 DATA ***
1030 DATA DAIRY,MILK,EGGS,CHEESE,COTTAGE CHEESE,CREAM,YOGHURT,MARGARINE,BUTTER,ICE CREAM!!
```

```
1039 DATA ***
1040 DATA CEREALS,BREAD,OATMEAL,FROSTIES,RICE BUBBLES,RICE CRISPIES,CORN FLAKES,MUESLI,CAKES,SPAGHETTI NOODLES,CRISPS,TWISTIES,MUNCHIES,BREAD ROLLS,BISCUITS
1049 DATA ***
1050 DATA COOKING,SAUCE,MAPLE SYRUP,TOMATO SAUCE,TOMATO PASTE,SALT,SUGAR,S.R. FLOUR,PLAIN FLOUR,CORN FLOUR,ICING SUGAR,CASTER SU
```

```
GAR,SULTANAS,SOUP,HOT DOGS,CRAVY MIX,SEASONING CUBES,BROWN SUGAR,MUSTARD,POTATO WHIP,SPLIT PEAS,BAKING POWDER,CAKE MIX
1051 DATA APPLE SAUCE,PEANUT BUTTER,JAM,HONEY,MARSHMALLOWS,PARMESAN CHEESE,PIZZA,LASAGNE,PEANUTS,FREEZER BAGS,OVEN BAGS
1059 DATA ***
1060 DATA DRINKS,CORDIAL,FANTA (ETC),COFFEE,TEA,MILO,QUIK,APPLE JUICE,ORANGE JUICE,FRUIT JUICE
1069 DATA ***
1070 DATA CLEANING,DISINFECTANT,DRIVE,WASHING POWDER,FABRIC SOFTENER,SPONGES,FLASH,SPRAY & WIPE,FURNITURE POLISH,MR. SHEEN,AJAX CLEANER,DETERGENT,CLOTHES PEGS,CAR WASH,FABRIC SPRAY,DISTILLED WATER,IRON CLEANER,CHUX
1071 DATA STAIN REMOVER,SHOE POLISH,GLOVES,AIR FRESHENER,FLY KILLER,SOFTLY,EUCALYPTUS OIL,GUMPTON,FOOD WRAP,SANDWICH BAGS
1072 DATA FOIL,GARBAGE BAGS,BIN BAGS
1079 DATA ***
1080 DATA CANNED STUFF,MIXED TWO FRUITS,PEANUTS,SPAGHETTI,BAKED BEANS,PEAS,CORN,BEANS,SPAGHETTI SAUCE,PINEAPPLE,TUNA,CARROTS
1089 DATA ***
1090 DATA PERSONAL,TOOTHPASTE,SOAP,TOILET PAPER,SHAMPOO,TISSUES
1099 DATA ***
9999 DATA ---
```

The BATTLE of the GENERALS



by Andrew McLintock

32K ECB

THE DATE IS the 7th of June 1944, the morning after the D-Day landings. You have command of several companies from the U.S 8th Regiment. The previous day you landed on Utah beach and advanced inland. You are now positioned with your command on the edge of a small town which you must, at all costs, capture. This is one of the situations you could find yourself in when you play Battle of the Generals.

THE GAME

Battle of the Generals is a computer simulation written for a 32k colour computer with E.C.B. There are two different battles that can be fought. The first is a part of the D-Day landings and the other is the battle for control of Arnhem.

Each battle has its own map and there are two different options for your troops to be positioned for each map. No rules are included in the program itself because of their length.

Please also note that because of the length of the program, it will appear on this month's CoCoOz tape.

UNITS

Under your command you have a total of 14 companies which are shown in table one.

Table One

Unit—	No.—	Moves—	Weapon—	Symbol—
Infantry.	Five.	Four.	Two.	■
Mechanized Infantry.	Three.	Six.	Three.	■
Infantry Support.	Three.	Six.	Four.	■
Armour.	Two.	Five.	Five.	■
Mechanized Artillery.	One.	Three.	Six.	■

The German force is unknown but it is believed to be of a similar strength. American units are shown as black and red, German units are white and black.

TERRAIN

Both maps are a 32 x 15 grid and have various types of terrain. Their symbols and movement factor needed to cross them is given in table two.

Table Two

Terrain Type—	Symbol—	Movement factor required.
Road.	Yellow square.	One.
Field.	Green square.	One.
Tree.	Up Arrow.	Two.
Rocky ground.	Slash.	Two.
Buildings.		Three.
Water.	Blue Square.	Can't be crossed.

GAME TURN

The game works on a system of turns and each turn follows the same order— Allied player commands his units then the computer moves or fires the German units. At the beginning of a game turn a "@" symbol appears on the unit that can be commanded. The player can then move or fire with that unit or go onto the next unit, he can also end the game turn if he has not used all his units.

The game turn will end

automatically after all units have operated once. To move a unit press the <M> key and the "@" will disappear and the word <Move> will appear in the bottom corner of the map.

Use the arrow keys to control the unit. When all the movement points are used or if the <Enter> key is pressed the cursor (@) will move to the next unit.

To fire type <F> while the cursor is still on the unit. The

word <Fire> will appear in the bottom of the map and a <D> for direction will appear above it. Enter either <N>orth, <S>outh, <E>ast or <W>est.

The closest target in range will be fired on. Each unit has its own range, these are:— Infantry=2, Mech. Infantry=2, Inf. Support=3, Armour=4, Artillery=6. Diagram one gives an example of the ground covered for each direction.

A unit can only fire or move each turn, and if it fires it can only fire on one target. When a unit is hit it will take casualties but it will not be destroyed.

Each American unit has a strength factor given as a percent and only when it reaches zero is that unit totally wiped out. The higher the weapon factor a unit has the more damage it will do when it

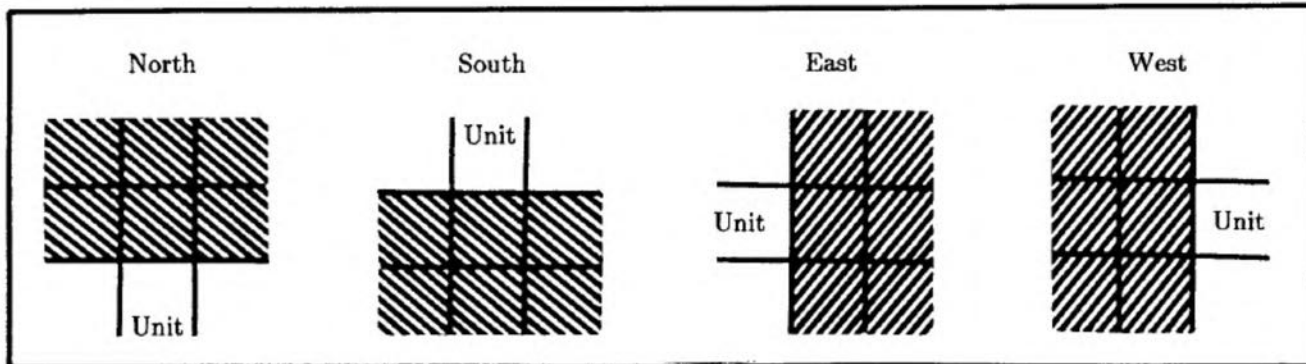


Diagram One

attacks.

After a unit has fired, the cursor will move to the next unit. Each turn units are open to command in the same order, that is Infantry, Mech. Infantry, Inf. Support, Armour and Artillery. When all these units have had the option to move or fire, the cursor will go around again until all the units that did not operate have done so.

To end the turn before all units have operated press <E> and the turn will end. The computer will then control all German movement and firing.

DISPLAY

At the bottom of the screen the unit status is displayed in the form of unit type, strength factor, movement factor and weapon factor. An example of a standard Armour at the start of the game would be: Armour 100-5-5. In the top right corner

is a number from 1 to 15. This is the game turn (how many days have gone in the battle).

VICTORY

The game is made up of a number of turns depending on the level of play. At the end of the last turn all the combat points are totalled and the type of victory decided.

Level-	Turns in the game-
One.	Fifteen.
Two.	Ten.
Three.	Eight.

Points-	Type of Victory-
115	American victory
96	Cond. American victory.
85	Marg. American victory.
60	German victory

Combat points are gained and lost from several actions through the course of the battle. These are given in the following table-

Action-	Combat Points-
10% of German force lost.	2
German unit destroyed.	4
10% of US force lost.	-1
American unit destroyed.	-2
Objective held at end of game.	50

Objective - To get the points for objective an American unit must be at the objective at the end of the game. To see objective type <O> before any allied unit command.

COMMANDS

The following is a list of all game commands.

- <M> moves unit.
- <F> fires unit.
- <O> shows objective.
- <E> ends allied game turn.
- <ENTER> ends unit movement.

Good Luck
General.

ADDRESS BOOK

From P 51

```
670 PRINT"BIRTH DATE: ";B1$
680 IF EOF(-1) THEN 770
690 PRINT:PRINT:PRINT"READ MORE
FILES (Y/N)"
700 INPUT YN$
710 IF YN$="N" THEN 740
720 IF YN$="Y" THEN 590
730 GOTO 700
740 INPUT"ARE YOU SURE";SUS
750 IF SUS="N" THEN 590
760 GOTO 220
770 PRINT:PRINT:PRINT:PRINT"THIS
IS THE LAST RECORD ON THE CURR
ENT FILE."
780 EXEC 44539
790 GOTO 20
800 '***** PRINTER OPTION *****
810 CLS:PRINT@40,"PRINTER OPTION
```

```
"
820 PRINT:PRINT"SET PRINTER UP A
ND THEN PRESS ANY KEY"
830 EXEC 44539
840 PRINT:PRINT"PREPARE CASSETTE
AND PRESS PLAY"
850 EXEC 44539:PRINT:PRINT"
.....PRINTING....."
860 OPEN"1",#-1,"ADDRESS"
870 INPUT #-1,N$,AD$,PH$,MF$,BI$
880 PRINT #-2,"NAME: ";N$
890 PRINT #-2,"ADDRESS: ";AD$
900 PRINT #-2,"PHONE NO. : ";PH$
910 PRINT #-2,"SEX: ";MF$
920 PRINT #-2,"BIRTH DATE: ";BI$
930 IF EOF(-1) THEN 950
940 GOTO 870
950 PRINT:PRINT" PRINTING HA
S FINISHED"
960 CLOSE #-1
970 FOR DLY=1 TO 460*3:NEXT:GOTO
220
980 ' **LIST NAME & PHONE NO.**
990 CLS:PRINT:PRINT" PREPARE TA
PE AND PRESS PLAY"
1000 PRINT" PRESS ANY KEY
"
1010 EXEC 44539
1020 OPEN"1",#-1,"ADDRESS"
```

```
1030 INPUT #-1,N$,PH$
1040 CLS
1050 PRINT"NAME: ";N$
1060 PRINT"PHONE NO. : ";PH$
1070 IF EOF(-1) THEN 1150
1080 PRINT:PRINT:PRINT"READ MORE
FILES (Y/N)"
1090 INPUT YN$
1100 IF YN$="Y" THEN 1030 ELSE G
OTO 1110
1110 PRINT:INPUT"ARE YOU SURE (Y
/N)";YN$
1120 IF YN$="Y" THEN 220
1130 IF YN$="N" THEN 1030
1140 GOTO 1110
1150 PRINT:PRINT"THIS IS THE LAS
T RECORD ON FILE":PRINT" PRESS
ANY KEY TO GO TO MENU"
1160 EXEC44539
1170 GOTO 220
1180 '*** EXIT ADDRESS BOOK ***
1190 CLS:PRINT@42,"EXIT OPTION"
1200 PRINT:PRINT:PRINT"ARE YOU S
URE (Y/N)":INPUT YN$:IF YN$="Y"
HEN GOTO 1220
1210 IF YN$="N"THEN GOTO 220
1220 POKE 113,0:EXEC 40999
```

CoCo

by Wayne Kely
16K ECB

ADDRESS BOOK

THE FOLLOWING PROGRAM is a tape utility that simulates a computerized address book. The features this program allows for are:

1. Create New Titles
2. Review Files
3. Send Files to Printer
4. Review Names & Phone No.
5. Exit Address Book

The information you must include in the files is as follows:

1. Name
2. Address
3. City
4. Postcode
5. Phone Number
6. Sex
7. Birthdate

I hope this is adequate for your files. If not, it can be extended with minor alterations.

Also, I have written in a password routine that allows the user to input the correct password to gain access to the main program. To change the password in the program, just change what P\$ equals in line 160. When you input the password, the computer changes the normal characters to graphic character strings.

The Listing:

```

0 GOTO10
3 SAVE"129:3":END
10 '*****
20 '*****
30 '** COCO ADDRESS BOOK **
40 '** BY **
50 '** WAYNE KELY **
60 '** CREATED 18 AUGUST **
70 '** 1985 **
80 '*****
90 '*****
100 GOTO 130
110 CSAVE"FILER:2"
120 END
130 POKE 383,158
140 FOR X=1 TO 3:POKE 359,57:SCR
EEN 0,1
150 CLS:PRINT:PRINT:PRINT"ENTER
PASSWORD":POKE 359,255:POKE 359,
128:INPUT P$
160 IF P$="PASSWORD" THEN POKE 3
59,126:GOTO 220
170 POKE 359,126:NEXT:POKE 359,1
26
180 PRINT:PRINT:PRINT" YOUR ACCE
SS PASSWORD IS NOT VALID"
190 PRINT:PRINT" PROGRAM IS NOW
TERMINATED";
200 FOR T=1 TO 2000:NEXT
210 GOTO 1220
220 POKE 359,57:SCREEN 0,1:CLS:P
RINT@7,"COCO ADDRESS BOOK"
230 PRINT:PRINT" M E N U O
P T I O N S"
240 PRINT:PRINT" (1) CREATE NE
W RECORDS"
250 PRINT:PRINT" (2) READ RECO
RDS FROM TAPE"
260 PRINT:PRINT" (3) SEND FILE
S TO PRINTER"
270 PRINT:PRINT" (4) LIST NAME
AND PHONE NO.
280 PRINT:PRINT" (5) EXIT ADDR
ESS BOOK"
290 PRINT:PRINT" CHOOSE OPTION"
:INPUT O
300 ON O GOTO 330,550,810,980,11
90
310 GOTO 220
320 '*** CREATING NEW FILES ***
330 CLS:PRINT"PRESS PLAY & RECOR
D THEN ANY KEY":EXEC 44539
340 OPEN"O",#-1,"ADDRESS"
350 CLS:PRINT"INPUT PERSONAL DAT
A"
360 INPUT"NAME";N$
370 INPUT"ADDRESS";AD$
380 INPUT"CITY";A1$
390 INPUT"POSTCODE";A2$
400 INPUT"PHONE NO.";PH$
410 INPUT"SEX";MF$
420 INPUT"BIRTH DATE";B1$
430 INPUT"IS THE ABOVE CORRECT";
CO$
440 IF CO$="N" THEN 350
450 PRINT #-1,N$,AD$,A1$,A2$,PH$
,MF$,B1$
460 INPUT"DO YOU WANT TO QUIT CR
EATING FILES(Y/N)";Q$
470 IF Q$="Y" THEN 500
480 IF Q$="N" THEN 350
490 CLS:GOTO 460
500 INPUT"ARE YOU SURE (Y/N)";ES
510 IF ES="N" THEN 350
520 IF ES="Y" THEN CLOSE #-1:GOT
O 220
530 CLS:GOTO 500
540 '** LOAD FILES FROM TAPE **
550 CLS:PRINT:PRINT" PREPARE TA
PE AND PRESS PLAY"
560 PRINT" PRESS ANY KEY
"
570 EXEC 44539
580 OPEN"1",#-1,"ADDRESS"
590 INPUT #-1,N$,AD$,A1$,A2$,PH$
,MF$,B1$
600 CLS
610 PRINT"NAME: ";N$
620 PRINT"ADDRESS: ";AD$
630 PRINT"CITY: ";A1$
640 PRINT"POSTCODE: ";A2$
650 PRINT"PHONE NO.: ";PH$
660 PRINT"SEX: ";MF$

```

Continued on P 50

by Mal McLauchlan
32K ECB MUSIC

AUSSIE BUSH BALLADS

TEN AUSSIE BUSH BALLADS

Arranged for Coco by Mal McLauchlan

FROM ALL THE Australian bush ballads (folk songs, call them what you will) that I know, I have selected the ten that I seem to be humming or whistling most often. These are the ones that "grow on you" - I think you'll like them! They tell of the early days - particularly the life in the Outback : the shearers, the bullock drivers, the stockmen and yes, the convicts too. The menu gives you the ten titles, numbered 1 to 10, and you just type and <Enter> the number you want to hear. If you want to listen to them all without touching Coco again, type in '11', <Enter>, and sit back.

The Listing:

```
0 GOTO10
3 SAVE"121:3":END
10 '#####TEN AUSTRALIAN#####
#####BUSH BALLADS#####
20 '#####SET TO COCO BY#####
#####MAL NCLAUCHLAN#####
#####11 HUNTER ST.#####
#####BOONAH. Q4310#####
30 CLS:PRINT@4,"TEN AUSTRALIAN B
ALLADS":PRINT@36,"-----
-----":PRINT@66,"1. WILD ROVE
R NO MORE":PRINT@98,"2. EUMERELL
A SHORE":PRINT@130,"3. PASS THE
BILLY ROUND BOYS"
40 PRINT@162,"4. BOUND FOR SOUTH
AUSTRALIA":PRINT@194,"5. VAN DI
EMEN'S LAND":PRINT@226,"6. MORET
ON BAY"
50 PRINT@258,"7. THE SHEEPWASHER
":PRINT@290,"8. BULLOCKY-O":PRIN
T@322,"9. CLICK GO THE SHEARS"
60 PRINT@354,"10. THE DYING STOCK
MAN":PRINT@386,"11. ALL THE ABOVE
":PRINT@455,"<take your pick>":I
NPUT, A
70 ON A GOTO 90,180,280,420,540,
620,690,760,840,930,90
80 '#####
90 CLS4:PRINT@230,"WILD ROVER NO
MORE";
100 PLAY"T403L4CL4. FL8GL4FECCL4.
GL8AL4GL2F
```

```
110 PLAY"L4FO4CO3AFL8EDL4. DL8CL4
CAGL2F
120 PLAY"L4GL4. GL8FL4ECCL4. AL8GL
4AL2B-
130 PLAY"L8AAO4L4CO3AFL8EDL4DCCA
GL2.F
140 PLAY"L2GL4FL8ECL2CL4. AL8GL4A
L2B-
150 PLAY"L8AB-O4L4CO3AFL8EDL4DCC
AGL2.FP4
160 IF A=11 THEN 180 ELSE 30
170 '#####
180 CLS5:PRINT@232,"EUMERELLA SH
ORE";
190 PLAY"T2O4L8CEGGGGL8. GL8ECFGA
BO5L4C
200 PLAY"O4L8BAGGGGAGECL2DL8DP8
210 PLAY"CEGGGAGECCFFFO5L4C
220 PLAY"O4L8BAL4GL8BAGGFDL2CP8
230 PLAY"O5L8CCO4BBBBL4BL8AGO5L4
CO4L8GEL4C
240 PLAY"L8DEFL8. FL8FFF05CO4BAL2
GL8GP8
250 PLAY"CEGGGGECCFFFAO5L4C
260 PLAY"O4L8BAGGBAGGFDL2CL8CP4
270 IF A=11 THEN 290 ELSE 30
280 '#####
290 CLS6:PRINT@228,"PASS THE BIL
LY ROUND BOYS";
300 FOR RPT=1 TO 2
310 PLAY"T4O3L8EFL4. GL8AL4GEO4L2
.C
320 PLAY"O3L8EFL4. GL8AL4GEEL2D
330 PLAY"L8EFL4. GL8AL4GEO4L2C
340 PLAY"O3L4AL4. GL8DL4DFEL2CP4
350 PLAY"O4L4. CL8CO3BBBL2O4CP4
```

```
360 PLAY"O3L4GL8GAL4GEEL2D
370 PLAY"L8EFL4. GL8AL4GEL2O4C
380 PLAY"O3L4AL4. GL8DL4DFEL2CP4
390 NEXT RPT
400 IF A=11 THEN 420 ELSE 30
410 '#####
420 CLS4:PRINT@ 228,"BOUND FOR S
OUTH AUSTRALIA";
430 FOR RPT=1 TO 2
440 PLAY"O3T2L8EC#EEAF#EL4EP16
450 PLAY"L8F#EL4EL8F#EE
460 PLAY"C#C#EC#O2BAAL16ABO3L8C
#C#EC#O2BAP16
470 PLAY"O3L8. AL16AL8AAO4C#O3AL4
A
480 PLAY"L8F#EL4EL8F#EL4E
490 PLAY"L8. AL16AL8AAO4C#O3AA
500 PLAY"L16C#DL8. EL16F#L8EC#O2B
AP4
510 NEXT RPT
520 IF A=11 THEN 540 ELSE 30
530 '#####
540 CLS8:PRINT@230,"VAN DIEMEN'S
LAND";
550 FOR RPT=1 TO 2:PLAY"T4O3L16E
FL4GO4L8CL4CO3L8AL4BL8AGFDL4EL8C
L4CL8CL4. CL4C
560 PLAY"L8EL4CL8DL4EL8GO4L4CO3L
8BO4L4DL8CO3L4BL8GL4AL8F#L4. GL4G
570 PLAY"L16GFL4EL8FGABO4L4CO3L8
BO4L4DL8CO3L8AL4GL8EL4. FL4F
580 PLAY"L16EFL4GO4L8CL4CO3L8AL4
```

```

BL8AGFDL4EL8CL4CL8CL2CP4
590 NEXT RPT
600 IF A=11 THEN 620 ELSE 30
610 '*****
620 CLS2:PRINT@234,"MORETON BAY"
;
630 PLAY"T3O3L8DDO2AO3L4DL8F#AO4
DC#O3L4BO4L8DO3BAF#L4DL8EF#EDO2L
4BP4
640 PLAY"L16BO3C#L8DO2AO3L4DL8F#
AO4DC#O3L4BO4L8DO3BAF#L8.F#L16EL
8DEDDL4DP4
650 PLAY"L8AAF#L4AL8BO4C#DC#O3L4
BO4L8DO3BAF#L4DL8EF#EDO2L4BP4
660 PLAY"O3L8DDO2AO3L4DL8F#AO4DC
#O3L4BO4L8DO3BAF#L8.F#L16EL8DEDD
L4.DP4
670 IF A=11 THEN 690 ELSE 30
680 '*****
690 CLS3:PRINT@232,"THE SHEEPWAS
HER";
700 FOR RPT=1 TO 2:PLAY"T4O3L4GL
8CCL4CEL8GGL4.GL8GO4CCL4CO3BL2A
710 PLAY"L4BO4L8CDL4CO3BL8AGL4GG
L8DDL4DDL2G
720 PLAY"L4GL8CCL4CEL8GGL4GGO4L8
CCL4CO3B-L2A
730 PLAY"L4BO4L8CDL4CO3BL8AGO4L4
CO3EL8GGL4FEDL2CP4":NEXT RPT
740 IF A=11 THEN 760 ELSE 30
750 '*****
760 CLS7:PRINT@234,"BULLOCKY-O";
770 PLAY"T4O3L4.DL4GL8GL4GL8AL4.
BL8AAGL4.AL8DDDL4.D
780 PLAY"L4DL8DGGGL4GL8AL4.BL8AA
GL4.AAL4AP8
790 PLAY"L4AL8BO4L4CL8CL4CL8CL4.
CL4DL8CO3BBL4BL8AL4GP8
800 PLAY"L4GL8AL4BL8BL4BL8BL4AL8
AL4AL8AL4GP8L8GGAL4BP8
810 PLAY"L4GL8AL4BL8BL4BL8BL4AL8
AL4AL8AL4.GL8GGGL4.GP4
820 IF A=11 THEN 840 ELSE 30
830 '*****
840 CLS8:PRINT@230,"CLICK GO THE
SHEARS";
850 PLAY"T3O3L4EL8.EL16DL4CL8.EL
16GO4L4CL8.CO3L16BL2A
860 PLAY"L4GL8.GL16AL4GL8.EL16CL
4DL8.DL16EL2D
870 PLAY"L4EL8.EL16DL4CL8.EL16GO
4L4CL8.CO3L16BL2A
880 PLAY"O4L8.DL16CO3L8.BL16AL8.
GL16FL8.EL16DL8.CO4L16CL8.CL16CL
2C
890 PLAY"O4L4DL8.DL16CO3L4BO4DCE
L2CO3L4AL8.AL16BO4L4CO3L8.BL16AL
4GO4CO3DP8
900 PLAY"L8DL8.EL16EL8.EL16DL4CL
8.EL16GO4L8.CL16CL8.CO3L16BL4.AL
8AO4L8.DL16CO3L8.BL16AL8.GL16FL8
.EL16DL4CO4L8.CL16CL2CP4
910 IF A=11 THEN 930 ELSE 30
920 '*****
930 CLS4:PRINT@230,"THE DYING ST
OCKMAN";
940 FOR RPT=1 TO 2:PLAY"T4O3L8GF
L4EEEFGL2GG
950 PLAY"L4GAAAGECL2.D
960 PLAY"L8GFL4EEEFGL2GG
970 PLAY"L8GGL4BO4CO3EFDL2.CL2C
980 NEXT RPT
990 GOTO30
    
```

HYMNS

by Mal McLaughlan
32K ECB MUSIC



HERE IS A mixture of old and new hymns, such as are sung by many different church congregations. This could well be the first time they have been set to play on the CoCo.

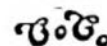
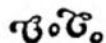
The Listing:

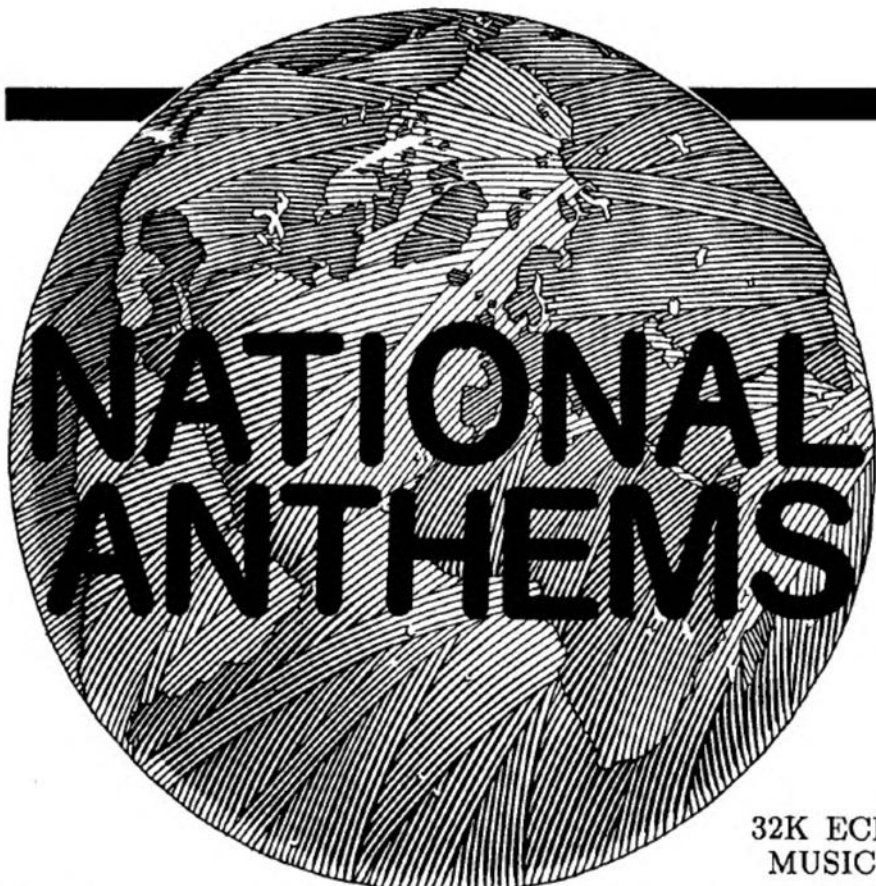
```

1 '*****SIX POPULAR HYMNS*****
**SET TO COCO BY MAL MCLAUHLAN*
**11 HUNTER ST., BOONAH. Q.4310*
*****DEC.'86*****
2 GOTO 10
3 SAVE"115B:3":END
10 CLS:FOR A=0 TO 31:B=RND(7)+1:
SET(A,0,B):SET(0,A,B):SET(63-A,0
,B):SET(63,A,B):SET(A,31,B):SET(
63-A,31,B):NEXT A
20 PRINT@40,"favourite hymns":P
RINT@98,"1. THIS IS THE GOD WE A
DORE";
30 PRINT@130,"2. LORD OF THE DAN
CE";:PRINT@162,"3. NEIGHBOURS";
40 PRINT@194,"4. WERE YOU THERE?
";:PRINT@226,"5. A NEW COMMANDME
NT";
50 PRINT@258,"6. HYMN TO JOY";
60 PRINT@356,"WHICH NUMBER?";:IN
PUT N
70 ON N GOTO 80,130,210,270,310,
390
80 CLS5:GOSUB 500:PRINT@228,"THI
S IS THE GOD WE ADORE";:PLAY"T3O
3;L4;DGL8GGGABAL2.G"
90 PLAY"L8F#GL4AL8AAABO4CO3AL2.B
"
100 PLAY"L8GBO4L4DL8DDL4DL8CO3BL
2.A"
110 PLAY"L4DEL8O4CCO3BAGF#L2.G"
120 GOTO 10
130 CLS3:GOSUB 500:PRINT@231,"LO
RD OF THE DANCE";:PLAY"T3O3L8.AL
16AL4GGAL8AP48GL4P96FL4FL1F"
140 PLAY"P24L4CFL8FFAGAB-O4L4CL8
CCO3L4A"
150 PLAY"L8AAL4GL8GGL4GL8GAB-AGF
L4E"
160 PLAY"L8CCFFFFAGAB-O4L4CL8CCO
3L4A"
170 PLAY"L8AAL4GL8GGL4AL8GGL4FFF
P4"
180 PLAY"O4L2CO3L4.AL8GAB-AGL2FL
4AL8AO4L4CO3L8B-AL4GGG"
190 PLAY"L8CCL4FFL4.FL8GAGAB-O4L
4CO3L8B-AL4GGAL8AGL4FFF"
200 GOTO 10
210 CLS6:GOSUB 500:FOR T=1 TO 2:
PRINT @ 234,"NEIGHBOURS";:PLAY"T
3O3L8F#GAAGF#L2.G"
220 PLAY"L8EF#GGF#EL2.F#"
230 PLAY"L8DEF#F#L8EDL4.EL4EL8C#
L4.DL4D"
240 PLAY"L8F#L4.AL4AL8AL4.F#L4F#
    
```

```

L8F#AAF#L4GL8EGGEL4F#L8DF#F#DL4E
L8C#L2.DP16"
250 NEXT T
260 GOTO 10
270 CLS4:GOSUB 500:PRINT@232,"WE
RE YOU THERE?";
280 FOR RPT=1 TO 2:PLAY"T3O2L8BB
O3L4EL8EF#GF#EGL4BL8BO4DO3L4BL8G
F#L4EL8EF#GF#EDL2.E"
290 PLAY"L8DDL4GL8GABAGBO4L4DL8E
P96O3L8BAGF#L2.E":NEXT RPT
300 GOTO 10
310 CLS7:GOSUB 500:PRINT@232,"A
NEW COMMANDMENT";
320 PLAY"T4O2L4AO3L2.F#L4EEL2DL4
DL2GL4.GL8F#L2E"
330 PLAY"L4F#GL2AL4.AL8F#L4EL2DL
4DL2BL4GF#L2E":PLAY"L4F#GL2AL4.A
L8F#L4EL2DL4DL2GL4C#L2.D"
340 PLAY"L4DO4L2.DL4DC#C#O3BBL4.
AL8BL4.AL8F#L4EL2D"
350 PLAY"L4DL2.BL4BL2AL4F#AF#L2E
F#"
360 PLAY"O3L4DO4L2.DL4DC#C#O3BBL
4.AL8BL4.AL8F#L4EL2D"
370 PLAY"L4DL2.BL4BL2AL4F#AF#L2E
EL2.D"
380 GOTO 10
390 CLS8:GOSUB 500:PRINT@234,"HY
MN TO JOY";
400 PLAY"T4O3L4AAB-O4CCO3B-AGFFG
AL4.AL8GL2G"
410 PLAY"O3L4AAB-O4CCO3B-AGFFGAL
4.GL8FL2F"
420 PLAY"L4GGAFGL8AB-L4AFGL8AB-L
4AGFGL2C"
430 PLAY"L4AAB-O4CCO3B-AGFFGAL4.
GL8FL2F"
440 PLAY"P2"
450 PLAY"O4L4AAB-O5CCO4B-AGFFGAL
4.AL8GL2G"
460 PLAY"O4L4AAB-O5CCO4B-AGFFGAL
4.GL8FL2F"
470 PLAY"L4GGAFGL8AB-L4AFGL8AB-L
4AGFGL2C"
480 PLAY"L4AAB-O5CCO4B-AGFFGAL4.
GL8FL1F"
490 GOTO 10
500 FOR X=1090 TO 1094:FOR Y=106
0 TO 1156 STEP 32:POKE X,128:POK
E Y,128:NEXT Y,X:RETURN
    
```





EACH TIME WE see international sporting events like the Olympic and Commonwealth Games, many of us are impressed by the tunes of international anthems/songs played, even if we don't know the words.

I have chosen a dozen national anthems and put them, along with a free english translation of the words, in a CoCo program. I have also included a second shorter version, without the words.

There are many more fine anthems and national songs for which there isn't enough room in a reasonably-sized program. So to those readers who comes from other countries I can only apologize.

Editors note: due to the length of both programs, it will appear on this month's CoCoOz. Sorry for any inconvenience!

32K ECB
MUSIC

by Mal McLauchlan

The Listing:

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1 '***NATIONAL ANTHEMS/SONGS***
2 GOTO 10
3 SAVE"115A:3":END
4 'SET TO COCO BY MAL MCLAUHLAN
  OF 11 HUNTER ST., BOONAH. Q4310
10 '****FIRST PART OF PROGRAMME
  DRAWS AN INTRODUCTORY SCREEN:-
20 DATA159,153,175,169,191,182,2
07,201,228,217,239,233,255,249,1
75,175,175,249,255,233,239,2
17,228,201,207,182,191,169,175,1
53,159
30 DATA153,175,169,191,182,207,2
01,228,217,239,233,255,249,159,1
59,159,159,159,159,249,255,233,2
39,217,228,201,207,182,191,169,1
75,153
40 DATA175,169,191,182,207,201,2
28,217,239,233,255,249,191,191,1
91,191,191,191,191,191,249,255,2
33,239,217,228,201,207,182,191,1
69,175
50 DATA169,191,182,201,228,2
17,239,233,255,249,207,207,207,2
07,207,207,207,207,207,207,249,2
55,233,239,217,228,201,207,182,1
91,169
60 DATA191,182,207,201,228,217,2
39,233,255,249,255,255,255,255,2
55,255,255,255,255,255,255,255,2
49,255,233,239,217,228,201,207,1
82,191
70 DATA182,207,201,228,217,239,2
33,255,249,239,239,239,239,239,2
39,239,239,239,239,239,239,239,2
39,249,255,233,239,217,228,201,2
07,182
80 DATA207,201,228,217,239,233,2
55,249,128,128,128,128,128,128,1
28,128,128,128,128,128,128,128,1
28,128,249,255,233,239,217,228,2
01,207
90 DATA201,159,159,159,159,159,1

```

```

59,159,014,001,020,009,015,014,0
01,012,128,001,014,020,008,005,0
13,019,159,159,159,159,159,159,1
59,201
100 DATA201,159,159,159,159,159,
159,159,128,128,128,001,014,004,
128,128,128,128,019,015,014,007,
019,128,159,159,159,159,159,159,
159,201
110 DATA207,201,228,217,239,233,
255,249,128,128,128,128,128,128,
128,128,128,128,128,128,128,128,
128,128,249,255,233,239,217,228,
201,207
120 DATA182,207,201,228,217,239,
233,255,249,239,239,239,239,239,
239,239,239,239,239,239,239,239,
239,249,255,233,239,217,228,201,
207,182
130 DATA191,182,207,201,228,217,
239,233,255,249,255,255,255,255,
255,255,255,255,255,255,255,255,
249,255,233,239,217,228,201,207,
182,191
140 DATA169,191,182,207,201,228,
217,239,233,255,249,207,207,207,
207,207,207,207,207,207,249,
255,233,239,217,228,201,207,182,
191,169
150 DATA175,169,191,182,207,201,
228,217,239,233,255,249,191,191,
191,191,191,191,191,249,255,
233,239,217,228,201,207,182,191,
169,175
160 DATA153,175,169,191,182,207,
201,228,217,239,233,255,249,159,
159,159,159,159,159,249,255,233,
239,217,228,201,207,182,191,169,
175,153
170 DATA159,153,175,169,191,182,
207,201,228,217,239,233,255,249,
175,175,175,175,249,255,233,239,
217,228,201,207,182,191,169,175,
153,159
180 CLS
190 BB=1024:EB=1055
200 FOR OL=1TO16

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210 FOR IL=BB TO EB
220 READ BY$
230 POKEIL,VAL(BY$)
240 NEXT
250 EB=EB+32:BB=BB+32
260 NEXT
270 FORTI=1TO3000:NEXT
280 X=NRD(7)+1:CLS(X)
290 '*****MENU FOLLOWS:*****
300 PRINT@34," NATIONAL ANTHEMS
  AND SONGS ";
310 PRINT@98," 1.AUSTRALIA 2.F
  RANCE ";:PRINT@130," 3.GERMA
  NY 4.U.K. ";
320 PRINT@162," 5.GREECE 6.
  ITALY ";:PRINT@194," 7.JAPA
  N 8.NETHERLANDS";
330 PRINT@226," 9.VIETNAM 10.
  NEW ZEALAND";:PRINT@258,"11.U.S.
  A 12.YUGOSLAVIA ";
340 PRINT@486,"<select a number>
  ";
350 INPUTA:ON A GOTO 360,440,540
  ,610,670,790,920,970,1040,1140,1
  200,1280
360 '*****AUSTRALIA*****
370 CLS:GOSUB1450:PRINT@266,"AUS
  TRALIA";:PRINT@298,"-----";
380 PLAY"T303L4FB-FDFL4:B-L8B-L4
  B-O4DCO3B-AB-O4L2.C
390 PLAY"O3L4FB-FDO2B-O3L4.FL8FL
  4FO4DCO3B-AGL2.F
400 PLAY"L4FL4.GL8AL4B-GL4.FL8DL
  4DFGB-O4E-DL2.C
410 PLAY"O3L4FL4.GL8AL4B-GL4.FL8
  B-L4B-O4CL4.DO3L8B-O4L4.CO3L8AL2
  .B-
420 PLAY"O4L4DE-DCO3B-AGFB-O4L2D
  O3L8B-O4L2CO3L8AL2.B-
430 GOTO 280
440 '*****FRANCE*****
450 CLS:GOSUB1450:PRINT@266,"FRA
  NCE";:PRINT@298,"-----";
460 PLAY"T303L16DL8.DL16DL4GGAO
  4L4.DO3L8BGP16L16GL8.BL16GL4EO4L
  2CO3L8.AL16F#L2G
470 PLAY"P8P16L16GL8.GL16AL4BBBO

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4L8. CO3L16BL4BAP4L8. AL16BO4L4CCC
L8. DL16CO3L2BP4O4L8. DL16DL4DO3L8
. BL16GO4L4DO3L8. BL16GL2D
480 PLAY" P8P16L16DL8. DL16F#L2. AL
4A04CO3L8. AL16F#L4AGL2FL4EL8. GL1
6GL4GL8. GL16GL8. F#L16GL2. A
490 PLAY" P8L8AL4. B-L8B-B-B-O4CDO
3L2. AL8B-AL4. GL8GGB-AGL4GL8F#P8P
4
500 PLAY" P8P16O4L16DL2DL8. DL16DO
3L8. BL16GL2. A
510 PLAY" P8P16O4L16DL2DL8. DL16DO
3L8. BL16GL2AL8AP8L4DL2GP4L4AL2BP
2
520 PLAY" O4L2CL4DEO3L2AL8AP8O4L4
EL2DL8. DO3L16BO4L8. CO3L16AL2. G
530 GOTO 280
540 '*****GERMANY*****
550 CLS: GOSUB1450: PRINT@268, "GER
MANY"; : PRINT@300, "-----";
560 PLAY" T3O3L4. E-L8FL4GFA-GL8FD
L4E-O4CO3B-A-GFL8GE-L2B-
570 PLAY" L4. E-L8FL4GFA-GL8FDL4E-
O4CO3B-A-GFL8GE-L2B-
580 PLAY" L4FGL8FDO2L4B-O3A-GL8FD
O2L4B-O3B-A-L4. GL8GL4AL8AB-L2B-
590 PLAY" O4L4. E-L8DDCO3L4B-O4L4.
CO3L8B-B-A-L4GL4. FL16GA-L8B-O4CO
3A-FL4E-L8GFL2E-
600 GOTO 280
610 '***UNITED KINGDOM*****
620 CLS: GOSUB1450: PRINT@265, "UNI
TED KINGDOM"; : PRINT@297, "-----
-----";
630 PLAY" T3O3L4GGAL4. F#L8GL4ABBO
4CO3L4. BL8AL4GAGF#L2. G
640 PLAY" O4L4DDDL4. DL8CO3L4BO4CC
CL4. CO3L8BL4A
650 PLAY" L4BO4L8CO3BAGL4. BO4L8CL
4DL8ECO3L4BAL2. G
660 GOTO280
670 '*****GREECE*****
680 CLS: GOSUB1450: PRINT@269, "GRE
ECE"; : PRINT@301, "-----";
690 PLAY" T2O3L8. AL16B-O4L4. .CO3L
16B-L8AL16B-O4L4CO3L8AP8
700 PLAY" L8. B-O4L16CL4. .DL16DL8.
EL16EL4FL8FP8
710 PLAY" L3. GL16AL4. . B-L16AL8. GL
16AL4B-L8GP8O4L8. CL16CL4. . EL16DL
8. CO3L16B-L4AL8AP8
720 PLAY" L8. L16AO4L4. .DL16FL8. EL
16C#L4DO3L8AP8
730 PLAY" L8. AL16AO4L4. .DL16FL8. E
L16C#L4DL8DP8
740 PLAY" L8. CL16CL8EP8L8. CL16CL4
CL8FP8L8. CL16CL4CL8EP16L16CL8. DL
16EL4FL8FP8
750 CLS4: PRINT@192, "NOW WITH ANC
IENT VALOUR RISING": PRINT@224, "L
ET US HAIL YOU, LIBERTY": PRINT@2
56, "NOW WITH ANCIENT VALOUR RISI
NG": PRINT@288, "LET US HAIL YOU,
LIBERTY!"
760 PLAY" L8. FL16EL4EL8DP8L8. DL16
CL4CL8CP8L8. DL16DL4. .CO3L16AL8. B
-L16GL4B-L8AP8
770 PLAY" O4L8. FL16EL4EL8DP8L8. DL
16CL4CO3L8B-O4P8L8. DL16DL4. .CO3L
16AL8. B-L16GL4FL8F
780 GOTO280
790 '*****ITALY*****
800 CLS: GOSUB1450: PRINT@268, "ITA
LY"; : PRINT@300, "-----";
810 PLAY" T3O3L4FL8. FL16GL2FO4L4D
L8. DL16E-L2DL4DL8. FL16E-L2DL4CL8
. DL16CO3L2B-
820 PLAY" O3L4FL8. FL16GL2FO4L4DL8
. DL16E-L2DL4DL8. FL16E-L2DL4CL8. D
L16CO3L2B-
830 PLAY" O4L4DDO3L2AL8. B-O4L16CO
3L8. B-L16AL2GL4B-L8. AL16B-O4L2CO
3L4DO4L2DL4E-O3FL8. FL16GL2FO4L4D
L8. DL16E-L2D
840 PLAY" L4DL8. FL16E-L4DL8DFCFO3
L2B-P2
850 PLAY" O3L16GL4GL8GP16L16FL4A-
L8GP16L16B-L4B-L8B-P16L16A
860 PLAY" O4L4CO3L8B-P16L16B-L4B-
O4L8. CL16DL4E-O3L8. GL16A-O4L4CO3
L8. B-L16GL4A-L8FP16
870 PLAY" L16FL4FL8FP16L16EL4GL8F
P16L16AL4AL8A-P16L16GL4B-L8A-P16
O4L16FL4FL8. FL16E-L4DL8. DL16CO3L
4B-L8. B-L16A-
880 PLAY" L4GP5L16GL4GL8. GL16F#L4
A-L8GP16L16GL4GL8. FL16E-L4FL8DP1
6L16GL4GL8. GL16F#
890 PLAY" L4A-L8GP16L16GL4GL8. FL1
6E-L4DP5L16GL4GL8. GL16FL4A-L8GP1
6L16B-L4B-L8. AL16B-
900 PLAY" O4L4DL8CP16L16CL8. CL16D
L8. B-L4GL8. GL16GL4FL8. FL16FL8E-P
8L4E-
910 GOTO 280
920 '*****JAPAN*****
930 CLS: GOSUB1450: PRINT@268, "JAP
AN"; : PRINT@300, "-----"; :
940 PLAY" T3O3L4DCDEGEL2DL4EGAL8G
AO4L4DO3L8BBL4AGEGL2AO4L4DCDDO3E
GAG
950 PLAY" L4. EL8GL2DL4AO4CDDCO3A
GAL8GEL2D
960 GOTO 280
970 '*****NETHERLANDS*****
980 CLS: GOSUB1450: PRINT@264, "NET
HERLANDS"; : PRINT@296, "-----
-----";
990 PLAY" T3O3L4DGG8L8BO4L8CO3AL4
BL8ABO4L4CO3BL8AGL4AL2. G
1000 PLAY" L4DGG8L8BO4CO3AL4BL8AB
O4L4CO3BL8AGL4AL2. G
1010 PLAY" L8BO4CL2DL4EL2DL4CO3BL
8ABO4L4CO3BAGL2A
1020 PLAY" L4DL8GF#GAL4BL2AL4GF#D
L8EF#L4GGF#L2G
1030 GOTO 280
1040 '*****VIETNAM*****
1050 CLS: GOSUB1450: PRINT@268, "VI
ETNAM"; : PRINT@300, "-----";
1060 PLAY" T3O3L16CL8. FL16AO4L4. C
L8DO3L8. AO4L16CO3L8. FL16GL2AL8A
1070 PLAY" P16L16DL8. DL16DL4FFL8.
GL16AL8. FL16GL2A
1080 PLAY" P8L4FGL8. GL16AL4GFO4CL
8. CL16DL8CP8O3L4FGL8GL16AL4GFO4C
L8. CL16DO3L8AP3L16CL4FFL8. FL16G
L2AL8AP8
1090 PLAY" L4CL4. AL8AL4AL8. FL16AO
4L2CL8CP8
1100 PLAY" O3L4FO4L4. DL8DL4DFO3L4
. B-O4L8DCP8O3L4FO4L4. CL8CL4CDO3L
4. B-O4L8CP8
1110 PLAY" O3L4FO4DL8. DL8. DL16DL4
DO3L8. B-O4L16DL2EO3L8CP8L4AO4CO3
L8. FL16AL4GL8. GL16AL2FL8FP8O4L8.
CL16CL2CL8. C
1120 PLAY" L16CL8. DL16CL2FO3L8AP8
L8. AL16AL2AL8. AL16AL8. FL16AO4L2C
O3L8GP8L4AL4. FL8CAP8O4L4CO3L4. AL
8FO4L8CP8L4FCO3AO4L8. CO3L16FL8. A
L16GL2FL8F
1130 GOTO280
1140 '*****NEW ZEALAND*****
1150 CLS: GOSUB 1450: PRINT@264, "N
EW ZEALAND"; : PRINT@296, "-----
-----";
1160 PLAY" T3O3L4GF#GDBL8. BL16AL2
GL4BO4CO3DBL8AGF#EL2DL4GDEF#GAL2
B
1170 PLAY" L4BGEAGF#L2GO4L4DDO3GB
O3DL8DEL2DO3L4ABO4L8CO3BAGF#GF#E
L2D
1180 PLAY" L4GDEF#GAO4L2DL4DCO3BO
4CO3BAL2G
1190 GOTO 280
1200 'UNITED STATES OF AMERICA*
1210 CLS: GOSUB1450: PRINT@269, "U.
S. A."; : PRINT@301, "-----";
1220 PLAY" T3O3L8. FL16DO2L4B-O3DF
L2B-O4L8. DL16CO3L4B-DEL2F
1230 PLAY" L8FFO4L4. DL8CO3L4B-L2A
L8GAL4B-B-FDO2B-O3L8. FL16DO2L4B-
O3DFL2B-O4L8. DL16CO3L4B-DEL2FL8F
FO4L4. DL8CO3L4B-L2AL8GAL4B-B-FDO
2B-
1240 PLAY" O4L8. DL16DL4DE-FL2FL8E
-DL4CDE-L2E-
1250 PLAY" L4E-L4. DL8CO3L4B-L2AL8
GAL4B-DEL2F
1260 PLAY" L4FB-B-L8B-AL4GGGO4CL8
E-DCO3B-L4B-AL8FFL4. B-O4L8CDE-L2
FO3L8B-O4CL4. DL8E-L4CO3L2B-
1270 GOTO 280
1280 '*****YUGOSLAVIA*****
1290 CLS: GOSUB1450: PRINT@266, "YU
GOSLAVIA"; : PRINT@298, "-----
-----";
1300 PLAY" T3O3L4BL8AF#L4GL8ABO4L
4CO3L8BAGF#L4EGL8ABO4L4DCO3BL8AG
L4AP4
1310 PLAY" L4BL8AF#L4GL8ABO4L4CO3
L8ABAGF#L4EGL8ABO4L4DCO3BL8AGL4A
P4
1320 PLAY" L4BBL4. BL8AAGL4GL2DL8.
CO2L16BO3L8CDL2EL8. DL16CO2L8BO3C
L2D
1330 PLAY" L4BBL4. BL8AAGL4GL2DL8.
CO2L16BO3L8CDL2EL8. F#L16F#L4AL4.
G
1370 PLAY" L8DL4. GL8AL4BO4CDDO3BG
O4L4. EL8DL4CO3BO4L2CP4
1380 PLAY" L4CO3L4. AO4L8CL4EEL2DO
3L4BGL4. AO4L8CO3L4AF#L2E
1390 PLAY" L4DL4. GL8AL4BO4CDDO3BG
O4L4. EL8DL4CO3BO4L2CP4
1400 PLAY" L4CO3L4. AO4L8CL4EEL2DO
3L4BBL4. AO4L8CO3L4AF#L2. E
1410 PLAY" L4DL4. GL8GL4BO4L8CDL2E
L4DDO3L4. BL8BO4DCO3L4BO4L8CO3BL4
AB
1420 PLAY" DL4. GL8GL4BO4L8CDL2EL4
DDO3L4. BL8BO4DCO3L4BO4L8CO3BL4AG
1430 GOTO 280
1440 '***FOLLOWING SUB/ROUTINE
DRAWS BORDER FOR WORDS: -*****
1450 FOR A=1024 TO 1055: GOSUB149
0: POKEA, X: NEXTA
1460 FORA=1056TO1472STEP32: GOSUB
1490: POKEA, X: NEXTA
1470 FORA=1087TO1503STEP32: GOSUB
1490: POKEA, X: NEXTA
1480 FORA=1504TO1535: GOSUB1490: P
OKEA, X: NEXTA
1490 Y=RND(7): X=143+Y*16: RETURN
1500 RETURN

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Freelancing In The Microcomputer Jungle

by Mark E. Perlmutter

One of the major concerns of business today is office automation through the acquisition of one or more microcomputers or terminals. Both the size of this investment and the risk of acquiring an inappropriate system can be minimized with the help of freelance computer consultants.

This article will describe freelance services available and give an overview of today's microcomputer market.

You could buy, lease or use an outside computing service. These services are often performed economically by freelancers, and may be the best answer for many businesses. If you decide to buy or lease without extensive knowledge about your computer hardware or software needs, only luck will give you the most productive solution.

IBM is the standard in microcomputer hardware, although using IBM may not be the best answer. Besides excessive cost, IBM microcomputers compare poorly with some of the imitations on the market.

There are two kinds of imitations on the market; the brand name computers (the low-cost Tandy, Epson, Panasonic and the high-priced Compaq) and the no-name clones. Imitators vary greatly in hardware and software compatibility.

You are likely to get a brand name computer if you lease a computer. When a company leases a computer system it gets a tax break. You might decide leasing is cost efficient, but it may not be the most productive considering software compatibility and speed. You may want to lease just a printer. That field is expanding and obsolescence is much faster in peripherals.

The Market Place

There is a lot of overpriced software and hardware in the marketplace. A good freelancer will save you hundreds of dollars by removing you from the salespeople looking for the biggest sale they think they can manage. Whether you need software or hardware, the salesperson can often mislead you because you yourself do not know your office system needs. (The microcomputer, software, and various peripherals when put together are called a "SYSTEM")

Look very closely at the advertisements. They tend to state what you get when you buy a computer system but NOT what you have to buy to make the system complete.

When you contact a computer seller, consider this; a seller may not have just the right system to suit your needs and so he will tell you that the system you want is unreliable. For example, I spoke to two stores that said that Turbo Clones were unreliable because they could not slow down to the IBM 4.77 MHz. This was false. There are many turbo clones on the market that have toggle switches for speed control. Some turbo clones are better than brand name equipment. Frequently a

store will not give accurate information because it does not carry a particular kind of equipment or can't make a profit on it.

You can go shopping from store to store asking the same simple technological questions and get different answers from sales people. Software prices will also vary from store to store. A good freelancer can cut through this garbage.

Freelancers Can Save You Money

How much time and money does this waste? A freelance consultant is not as biased in the kind of system you use. You can buy a microcomputer with a hard disk for \$2100 on a no-name XT compatible or clone. Why pay up to \$2000 more on a brand name? (In this article the terms compatible and clone have similar meanings except that compatibility is varying levels of similarity whereas clone should run exactly the same disks except for differences in price, speed or quality) Some clones of the IBM XT are clearly superior with respect to reliability, speed (sometimes 2 or 3 times the speed and warantees (the IBM warantee is 90 days. Some clones are 6 months to a year).

Many freelancers are quite knowledgable in many areas. If they can tackle most of your problems but not all, they will often sub-contract another freelancer to finish the programming or software installation. It is easier to deal with only one or two people.

By bringing in a freelance systems consultant you can save yourself from paying more for software. They will frequently give you an estimate, and you need not worry about the extra costs resulting slow project completion.

In consideration for these hardworking freelancers don't phone them up with a blank mind. Do little homework and read! Have an idea of what you are seeking so they can decide if they are able to service your needs.

They usually find it awkward to spend half an hour on the phone giving a crash course in their speciality. Their time costs them money. They are usually very generous, but when you spend hours of their time making extensive explanations on the phone without paying them, you are stealing from them.

Freelancers are professionals. if you need a lot of their time and feel it is valuable, then call them in and pay them as you would pay any tradesman or specialist. Not having any gigantic ads in the yellow pages does not make their professional standing any less valid. It just lowers their overhead for your benefit.

For long distance travel or hard to get to locations, you may be expected to pay for that as well. This true for any professional.

PC Bits

by Mark E. Perlmutter

Wordstar 2000 release 2.0 is a dream when you look at the documentation. It has a great amount of detail and so many options that it almost appears to be a full integrated package.

It has some database features for both files and mailing lists. Up to 13 digit accuracy in arithmetic functions. It even has a telecommunications mode. It sorts, indexes, creates a table of contents, and can save various formats. There are seven disks, three large manuals, and an easy to understand installation guide. Two of the disks are basic and advanced tutors. It is not ready to run when you get this software, you must copy all the write protected disks and run the install program disk first. It does not have room to self boot on the Program disk, therefore a DOS disk is necessary every time you start up the program.

There are over 100 printer options. It allows you to convert old Wordstar 3.3 files, IBM DCA files, and Easy Writer. It is possible to create macros as I suggested in another column. In 2000, the macro is referred to as a key glossary. There is even a colour keyboard overlay.

I had hoped that this program would be the "cats meow". Now the sad news... it is slow to learn if one used to another WP. If WP is new to the user the main problems relate to the use of frequently used commands. Such commands are necessary for quick ease of use. These commands are not on the help menus in an easy to understand format. Some of these command examples are: - cursor one word left or right, slight changes in screen format, and easy to use document save

features.

I found it slow moving with frequent disk access. Perhaps if it was on a hard disk this would not be a problem. Using a RAM disk (you need 512K RAM or more to set up a RAM disk on this program) only allows for part of this program to be in the memory of your computer. Therefore, floppy disk access is still needed for some of the options of WS2000.

The main menu and help menus were insufficient by themselves to have the program (or should I say programs) quick and easily working. I have heard many people say that Wordstar 3.3 is hard to learn with many needed options. I agree, (my old Tandy Colour Computer had a word processor, "Telewriter-64", that was faster, with more print options than Wordstar 3.3 or 2000, yet it was less than 15K) that all these options seem great except that the cursor control is not better than the old Wordstar 3.3 and 2000 is definitely slower for most commands.

I was able to learn the old Wordstar in just a few hours, with printouts in the format I wanted. The old Wordstar does lack a wide variety of embedded printer font controls (Telewriter had 9 that could be used separately or mixed...like bold-enlarged-italics or condensed-elite). I have been told that Word Perfect is capable of such feats, but, I have not tested it myself.

I don't mean to complain but when you buy a piece of software that can cost many hundreds of dollars, it should be fast and free of major bugs. Perhaps it is better if the manufacturers spent less on advertising and more on development.

Aquisition Caps Off CTC Growth Year

The acquisition by Computer Telecommunications Corporation Limited of local modem manufacturer, Avtek, neatly rounds off a year of rapid growth for the Mainframe Database custodian.

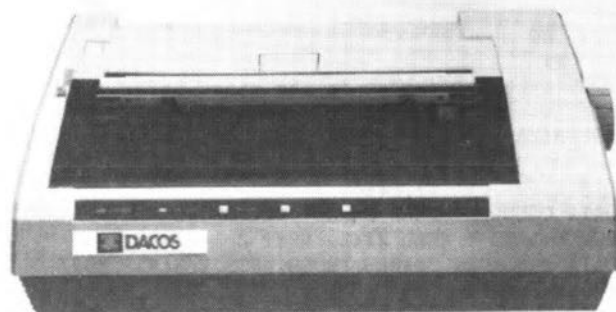
The appointment of new Chief Executive, Dr. Geoffrey Bird, signalled a "vertical expansion" that would take CTC's educational knowledge bank to the largest in the world within a single year.

To the full text of the Maquarie Dictionary was added a Maquarie Thesaurus, Book of Events, History of Ideas, and in fact the entire Maquarie library. Dr Bird incorporated the Australian Encyclopedia and the Grolier General Encyclopedia plus a repertoire of educational software free to subscribers.

"The aim was not just to have the worlds largest educational Database but to encourage the regular idea exchange between subscribers. The addition to electronic mail and community bulletin board services, facilitated by on-line word processors mean that data easily accessed can be data easily shared as well.

"With 180 PC brands contesting the Australian market, a personal was becoming as commonplace as the telephone line which connects it to our database. All we lacked was a reliable supply of low cost, high quality modem telephones. Local manufacturer Avtek certainly had the product so to use a cliché, we were so impressed, we bought the company!"

The horizontal expansion into modem manufacture compliments the vertical expansion of the CTC database itself and poises the company for a period of strong growth.



The VP 1814

The VP 1814, Dacos Printer illustrated is a low cost 180cps dot matrix printer.

It is compatible with the IBM & Epson range of printers but has additional features.

The convenient feature is the ability to select eight different font styles from a pad on the front of the printer.

There are new letter quality fonts and the printer accepts roll, single sheet, or fan-fold paper.

It has a self test facility, a nine wire head and is a low energy user.

The VP 1814 is distributed in Australia by Data Cable Pty Ltd.

through a dealer network and is priced at \$543 inc. Tax.

THE BIG ONE

by H.W. Ellis

AS promised in my last note, here is THE BIG ONE, a simple maths tutorial program that can help kids to learn with a certain degree of fun. The program was created for a friend who had recently bought a CoCo 2. I've had good reports from the parents, users and friends of users, that the various sock fillings seem to do the trick. Originally, I had sound programmed into it but have not done so in the transfer to T1000 language. The program is offered in its simplest form and can be easily modified for sound, colour, etc. One point to note is the SUBTRACTION routine - it is structured never to ask for negative answers, (you will never be asked to take 32 away from 23 for example, so parents can play with it safely). Due to the age of the children I did not include a DIVIDE option but this could easily be added. To avoid decimal answers, I feel the approach taken by anyone wanting to program this should be;

$N/D=A$

Note that these variables are examples only and relate to their function. - Say Numerator, Dividend, etc. These actual variable names have

been used in the present program and new ones must be invented or the program will crash badly. Possibly the easiest would be;

NN, DD, AA where all numbers are set by INT and the computer selects A and D and then calculates $A*D$ and gets N, but asks for A. Something like this;

```
REM GENERATE NUMBERS
A=INT(RND*20):D=INT(RND*5)

REM ELIMINATE DIVIDE BY OR INTO ZERO
IF A=0 THEN A=1: IF D=0 THEN D=1

REM CALCULATE NUMERATOR
N=A*D

?"what's your answer"; Z
?"my answer was"; A....etc
```

Selecting A between 1 and 20 and D between 1 and 5 as I have shown should give a reasonable range of difficulty but these parameters can be easily altered also.

The Listing:

```
10 LPRINT CHR$(27);CHR$(88);CHR$(1);CHR$(40)
20 LPRINT CHR$(27);"1";CHR$(3)
30 LPRINT CHR$(27);"1"
40 STOP
90 CLS
92 WIDTH 40
93 KEY OFF
94 PRINT"type any number in the range below"
95 PRINT"press <ENTER>"
96 RANDOMIZE
99 CLS
100 DIM X$(5),Y$(15),S$(6),T$(6)
110 DATA COLD,HOT,DEAD,SMELLY,WRIGGLING
120 FOR Z=1 TO 5:READ X$(Z):NEXT Z
130 DATA SAUSAGES,SNAKES,FROGS,ANTS,BANANAS,MONK
EYS,URGLIES,RATS
135 DATA YUKIES,BUGS,WORMS,TOADS,FLIES,MUD,FISH
140 FOR Z= 1 TO 15:READ Y$(Z): NEXT Z
150 DATA GLORIOUS,SUPER,MAGNIFICENT,HANDSOME,BRI
LLIANT,STUPENDOUS
160 FOR Z= 1 TO 6: READ S$(Z):NEXT Z
170 DATA GENIUS,MASTER,SAGE,HERO,BRAIN,MARVEL
180 FOR Z= 1 TO 6:READ T$(Z):NEXT Z
190 PRINT"          THE BIG TEST
"
200 PRINT"FAIL AND YOUR SOCKS WILL BE FILLED WIT
H DREADFULL THINGS"
210 PRINT"LIKE DEAD FROGS....."
220 PRINT"*** YOU MAY EVEN HAVE TO KISS PEOPLE *
**"
225 PRINT:PRINT:PRINT" Y U K ":PRINT:PRINT
226 PRINT"*****"
227 PRINT"* JUST PRESSING <ENTER> AS YOUR *"
228 PRINT"* ANSWER COUNTS AS ### WRONG ### *"
229 PRINT"*****"
230 PRINT:PRINT:PRINT"ARE YOU READY ?"
240 PRINT:PRINT:PRINT"PRESS ANY KEY TO BEGIN"
250 ZZ$=INKEY$:IF ZZ$="" THEN 250
260 Q=0:R=0
```

```
270 CLS
280 Q=Q+1
290 PRINT TAB(5)"1) add 2 numbers"
300 PRINT TAB(5)"2) add 3 numbers"
310 PRINT TAB(5)"3) take away 2 numbers"
320 PRINT TAB(5)"4) multiply two numbers"
330 PRINT TAB(5)"5) no more questions"
340 PRINT:PRINT
350 LOCATE 12,8
360 PRINT"***** QUESTION "Q" *****"
365 PRINT:PRINT
370 PRINT"what test to you want ?"
375 INPUT"type the number press<ENTER>";S
377 IF S<1 OR S>5 THEN 375
380 ON S GOTO 390,460,530,600,670
390 CLS: A=INT(RND * 100 +1):B=INT(RND * 100+1)
400 PRINT A"+"B
410 C=A+B
420 INPUT "What is your answer";WV
430 PRINT:PRINT"my answer was "C
440 FOR T= 1 TO 2000 :NEXT T
450 IF WV=C THEN 10000 ELSE 9000
460 CLS:D=INT(RND * 100+1):E=INT(RND * 100 +1):
F=INT(RND *100 +1)
470 PRINT D"+"E"+"F
480 G=D+E+F
490 INPUT "What was your answer";WX
495 PRINT"type it in and press<ENTER>"
500 PRINT:PRINT"My answer was "G
510 FOR T = 1 TO 2000:NEXT T
520 IF WX=G THEN 10000 ELSE 9000
530 CLS:H=INT(RND * 100 +1):I= INT(RND *100 +1)
540 IF H>I THEN J=H-I ELSE J=I-H
550 IF H>I THEN PRINT H-"I ELSE PRINT I-"H
560 INPUT"what was your answer ";WY
570 PRINT:PRINT"my answer was "J
580 FOR T = 1 TO 2000:NEXT T
590 IF WY = J THEN 10000 ELSE 9000
600 CLS:L=INT(RND * 12 +1):M= INT(RND * 12+1)
610 N=L*M
620 PRINT L"times"M
```

```

630 INPUT "What was your answer";WZ
640 PRINT:PRINT"My answer was "N
650 FOR T= 1 TO 2000:NEXT T
660 IF WZ=N THEN 10000 ELSE 9000
670 CLS:PRINT"you were asked "Q-1"questions"
680 PRINT"you had"R"correct"
690 PE=(R/(Q-1))*100
700 PRINT"that is "PE%"
710 PRINT
715 PRINT"*****"
716 PRINT"*****"
720 PRINT"100% is fantastic"
730 PRINT
740 PRINT"75-100% is not bad"
750 PRINT
760 PRINT"50-75% check your socks carefully"
770 PRINT
780 PRINT"0-50% keep this up and you'll end up "
782 PRINT
785 PRINT"      **** KISSING PEOPLE ****"
786 PRINT

```

```

787 PRINT"*****"
789 PRINT"*****"
790 END
9000 CLS:PRINT"sorry that's wrong !!"
9010 V=INT(RND*5+1):W=INT(RND*15+1)
9020 PRINT"Carry on like this and your socks"
9021 PRINT"will be filled with "
9030 PRINT"  "X$(V)" ";Y$(W)
9040 PRINT"press any key if you dare to go on
9050 YZ$=INKEY$:IF YZ$=""THEN 9050
9060 GOTO 270
10000 O=INT(RND*6+1):P=INT(RND*6+1)
10005 R=R+1
10010 CLS:PRINT"terrific you were right"
10020 PRINT
10030 PRINT"you truly are a ...."
10040 PRINT S$(O)" "T$(P)
10050 PRINT"press any key to go on oh great one"
10060 JJ$=INKEY$:IF JJ$="" THEN 10060
10070 GOTO 270

```



FORWARD TO THE FUTURE



by Laurie O'Shea

The younger of my two children, my son John, was born the same year as the personal computer, in 1985. Probably because I unaware of the impending birth of the Altair, it got there first, but perhaps it would have anyway.

Even at a very young age, like so many of his generation John has taken to computers like a duck to water and is an avid fan. In fact it was his interest in computing as young as six that set me becoming personally interested in microcomputing.

I needed to keep up with what was interesting him and found that it interested me enough to become my future life's work. Before then computing attracted only in an intellectual way as to its value for others in areas in which I'd been involved (eg adult literacy and numeracy remedial effects).

But John has done more than just generate a personal enthusiasm for computing, he has encouraged me towards lateral thinking in regard to the future of computers, lasers, communications and special applications of microchips.

When he was eight, we went to vocational guidance discussion. He said that he'd be interested in lasers. As he was a "Star Wars" fan from two and a half, I thought he meant the spacemen zapper type laser weapon as a childish interest.

But John was talking about lasers for medical research and surgery, in communications, in manufacture and research and he set out some exciting uses he saw for lasers.

He was thinking forward to the future because he was reading and thinking intelligently about the future into which he was growing. If only our planners and politicians could be so wise.

We could all follow John's example and start looking very carefully at the world that we are shaping for our children and ourselves over the next generation or two, or even just the next few years.

In a series of articles I've set out some thoughts, observations and sometimes a few cautions or warnings as we move forward to the future. It's an exciting journey but there are areas where we should still be very cautious as we play around with some of the most powerful "toys" that humankind has ever developed. There are many "grey areas" that need careful definition and safeguards or else we may move into quicksands that could trap us forever.

The microchip like fire is a good servant but a frightening master. We must constantly keep that in mind and not run away with our own enthusiasms (or that of the politicians and scientists).

Some of the ideas and projects that I'll talk about on this fascinating voyage to the future are my own. Others are those that are already in progress or are planned.

As many "Australian CoCo" readers are school teachers or school students I feel we should paint the future a lot more positively and dynamically to our children and young people that we have been doing.

It is good to be realistic and cautious but the journey forward to the future will be achieved by enthusiasm, creativity, research and hard work.

The future is not necessarily the bleak one of overcrowded countries, disease, nuclear war, the dreaded nuclear winter or civil unrest as is often painted and we should stop painting that picture

as the only one.

So to start the move towards positive thinking and thus a future that is a real future here is one man's vision of the voyage forward to the future.

Even in computing we've painted ourselves into a corner. In the late 70's and early 80's growth of sales of computers skyrocketed and overnight employment boomed, millionaires came and went and the future looked rosy. Growth rates of 20 to 40% seemed to be annual possibilities, even probabilities.

The the bottom seemed to fall out of the boom and the talk is of doom and gloom. People it seems don't want to buy computers. Rubbish ... we've just gone about it the wrong way. Too many firms tried to sell a box of goods that didn't come up to expectations. Also we've tried to (as an industry) blind the users with science.

Currently only a small percentage of homes and only a small percentage of businessmen are as involved in computing as they should be. I've spoken to scores, even hundreds of potential users who had let the computer age start to pass them by because they were confused, unsure or afraid.

In our journey forward to the future we are going to have to de-mystify the computer if we are going to ensure a steady growth to our industry.

But computing for home, education and business use has an exciting future and it will be possible to have a computer in every home, school and business no matter how small.

People have to be sold on why they need a computer. Marketing based on games is of limited value as people tire easily on that score (not that I'm decrying games, they are a valuable use of computers but only a relatively linked one).

Nor can we succeed in selling people hundreds or even thousands of dollars worth of equipment with the vague advice that it may be useful for filing recipes. Yet this is done too often.

We have to become creative in our manufacture, marketing and software development if we are to achieve the potential that the personal computer and its business computer cousin deserve.

I see an exciting future for the home computer such as the Tandy Color Computer 3, The Apple GS and Atari 520 ST where innovation and reliability go hand in hand.

A personal computer will be an essential part of a home education, information, games, entertainment and communication and will grow to assume an even greater role in the future.

I see that a computer system will be marketed much like today's entertainment systems. With a computer, modem, a security system, a printer and an answering system.

All of this is possible now and could be marketed quite economically by a visionary entrepreneur looking for long term profits rather than quick riches. I'm sure that Tandy with their lateral design and research thinking and manufacture could be the firm to start the ball rolling with the TRUE home computer.

After all they did start the home computer revolution for the ordinary person with the TRS 80 model 1 and diverted the path away from just the computer enthusiasts.

The home computer allows the family to get a quick digest of the morning news printed on the mini laser printer. This will not replace the newspaper which will have a more serious and in depth coverage of local and world happenings.

When the family is out or on holidays, the computer will monitor the smoke, fire and burglar alarms and alert the proper authorities in each case.

Busy families will use a computer based phone directory and reminder service for important events and activities. No more forgotten birthdays or anniversaries.

The home library will remain and probably will develop to be more pictorial in nature as people will still want to read books. However encyclopedias will be based on a computer linked CD system where a 24 volume encyclopedia will cost around \$150 or people may elect to direct connect to databases such as CTC's via modem.

In fact, the family of the future will access libraries and information services using the computer and modem as we cannot begin to imagine.

It will be the most important aspect of a child's education at home and school is to learn to access a information and learning experiences. Most people will need to change careers as often as three or four times in 'a lifetime' and the computer is a vital part of this process.

Letter writing may still exist as a vital personal activity but we very well may compose it on the in built word processor and print it in a specialized and individualized font as "hand writing".

Electronic mail will be a crucial part of communication and because of our cosmopolitan community, an economic part of our daily lives.

Computer shopping will be the main way we purchase daily requirements. Specialist items will still be purchased by personal visits to the shops but busy people won't bother to be hassled in shopping centres for daily needs.

Supermarkets may well offer a much wider range of goods and shopping will still be an experience to be enjoyed but much more of it will be done by accessing the shop via the computer.

Shopping for holidays may be the first such use of computers for this purpose. Holidays and recreation will become a much more important part of our journey forward to the future and the computer will assist in this becoming a creative experience by giving us more control over the selection.

If we find it difficult to visit dozens of travel agencies or tourist information services to select an exciting and different holiday, the computer via such services as the Viatel of the future will enable us to book for experiences we never dreamed of.

Computer games such as the Australian Inquisition (An Australian flavoured viatel quiz), Woodrow's Castle, Microtex 666 Galactic Warlords and even chess games over the telephone will be part of family entertainment. Widely separated friends will be able to enjoy each others company using the computer and the telephone.

This will be of vital importance to the sick, elderly and disabled, but I'll cover that later. The family that uses the computer together stays together!

In this way the computer is an important social tool in times of increased alienation of families. In fact it can be a creative way of forming once again the extended family by keeping families and friends in close contact over vast distances or even different continents.

I can see the computer and related technologies being an essential aspect of the lives of people from 3 to 93 and used by them daily.

Computer based banking and bill payment and computer accessed health monitoring are just two among many current uses for computers that I will discuss in this series in the journey we are taking towards the future. Till the next article, happy computing, lateral thinking and get your friends involved.

WHAT'S ON THE BEST OF CoCoOz

Best of CoCoOz #1. EDUCATION

ROADQUIZ ROB WEBB
 HANGMAN ALEPH DELTA
 AUSTGEOG P. THOMAS
 SPELL IAN LOBLEY
 FRACTUT ROBBIE DALZELL
 ICOSA BOB WALTERS
 TAXMAN TONY PARFITT
 MARKET ALEPH DELTA
 TOWNQUIZ ROB WEBB
 ALFABETA RON WEBB
 TANK ADDITION DEAN HODGSON
 TABLES BARRIE GERRAND
 KIDSTUFF JOHANNA VAGG
 FLAGQUIZ ROB WEBB

Best of CoCoOz #2 part 1. 16K GAMES.

LE-PAS Wrongsoft
 COCOMIND STEVE COLEMAN
 OILSLICK JEREMY GANS
 CCMETEOR BOB THOMSON
 BATTACK JEREMY GANS
 PROBDCIE BOB DELBOURGO
 CHECKERS J & J GANS
 PYTHON ?
 POKERMCH GRAHAM & MATTHEWS
 SPEEDMATH DEAN HODGSON
 LNDATTCK ALDO DEBERNARDIS
 INVADERS DEAN HODGSON
 RALLY TONY PARFITT
 FOURDRAW JOHANNA VAGG

Best of CoCoOz #2 part2. 32K GAMES.

TREASURE DAVISON & GANS
 MASTERMIND GRAHAM JORDAN
 ANESTHESIA MIKE MARTYN
 OREGON TRAIL DEAN HODGSON
 ADVENTURE STUART RAYNER
 SHOOTING GALLERY TOM DYKEMA
 GARDEN DAVE BLUHDORN
 YAHTZEE KEVIN GOWAN
 BATTLESHIP CHRIS SIMPSON
 ANDROMIDA MAX BETTRIDGE

Best of CoCoOz #3. UTILITIES

PAGER ?
 HI ALEX. HARTMANN
 SPOOL64K WARREN WARNE
 CREATITL BRIAN FERGUSON
 FASTEXT OZ-WIZ
 DATAGEN ROBIN BROWN
 SPEEDCTR PAUL HUMPHREYS
 PRNTSORT PAUL HUMPHREYS
 BIGREMS BOB T
 DIR PAUL HUMPHREYS
 COPYDIR THOMAS SZULCHA
 LABELLER J.D.RAY
 SCRPRT TOM DYKEMA
 MONITOR BRIAN FERGUSON
 BEAUTY BOB T
 PCOPY B. DOUGAN
 RAMTEST TOM DYKLEMA
 DISKFILE B. DOUGAN
 LABEL F. BISSELING

Best of CoCoOz #4. BUSINESS.

HI ALEX. HARTMANN
 (Disk Directory manager)
 BANKSTAT BARRY HATTAM
 (Statement annal & store)
 INSURE ROY VANDERSTEEN
 (Analyse home contents)
 SPOOL64K WARREN WARNE
 (Printer spooler req 64K)
 2BC WARREN WARNE
 (Hold 2 sep progs in mem)
 DATABASE PAUL HUMPHREYS
 (THE tape database)
 RESTACC DUNG LY
 (Tape restaurant accounts)
 PRSPDSHT GRAHAM MORPHETT
 (Disk print out SPDSHEET)
 PERSMAN PAUL HUMPHREYS
 (Personal finance management)
 CC5 GRAHAM MORPHETT
 (Sales Invoicing-tape sys)
 COCOWFILE BRIAN DOUGAN
 (Tape data base)
 DPMS PAUL HUMPHREYS
 (Disk Program Management Sys)
 40KGREY RAY GAUVREAU
 (40K Basic for grey 64K CoCo)
 TAXATION ?
 (Calc tax payable)
 SPDSHEET GRAHAM MORPHETT
 (Disk 22 column spreadsheet)
 ACS3 GREG WILSON
 (Multi disk data base)

Best of CoCoOz #5. ADVENTURES.

ADV 32K S. RAYNER
 QUEST TONY PARFITT
 LABYRINT JAMES REDMOND
 ADV SEAN LOWE
 CRYSTAL C & K SPRINGETT
 PRISON TIM ALTON
 OPALTON IAN CLARKE
 WIZARD DARRELL BERRY
 TREASURE C. DAVISON
 LOST ALEX. HARTMANN

Best of CoCoOz #6. PRESCHOOL.

ALPHABET STUART DAWSON
 HATDANCE JOHANNA VAGG
 AUSTSONG McDERMOTT FAMILY
 ADVANCE McDERMOTT FAMILY
 WALTZING McDERMOTT FAMILY
 TIMEKANG McDERMOTT FAMILY
 BAND McDERMOTT FAMILY
 KIDSTUFF JOHANNA VAGG
 MATCHER ?
 LETTERS JACK FINNEN
 BABYSIT JOHANNA VAGG
 SPELLING JOHANNA VAGG
 SPEEDTAB DEAN HODGSON
 10 FACES JOHANNA VAGG

Best of CoCoOz #7. GRAFIX.

LIL'COCO ANDREW WHITE
 THE ROOM H. FREDRIKSON
 BACK ST JOY WALLACE
 LOCO MIKE D'ESTERRE
 COCO ART SANDY McGREGOR
 KANGA JOHANNA VAGG
 THE BOAT SANDY McGREGOR
 SAD COCO F. BOLLE
 TOWER C.A. SYMS
 WINDYDAY SARAH LAW
 SAILING STEVE YOUNGBERRY
 OUTHOUSE STEVE YOUNGBERRY
 SMURF JOHANNA VAGG
 SUNSTATE STEVE YOUNGBERRY
 HELICOPT ANDREW WHITE
 MARTHA ANDREW WHITE
 BAD MOON STEVE YOUNGBERRY
 MCC J. WALLACE
 EAGLE ?
 BLASTER PAUL YOULD
 FOGHORN PAUL STEVENSON

Best of CoCoOz #8 GAMES — 16K

ALIEN STUART SANDERS
 QWERL DARRELL BERRY
 SHOOTOUT CRAIG STEWART
 SHUTTLE CRAIG STEWART
 FROG DARREN OTTERY
 FROGRACE TOM LEHANE
 KIMMAT TOM LEHANE
 GRANDPRI DOUG GREY
 WATERWAR JUSTIN LIPTON
 CATERPIL JUSTIN LIPTON
 DETECT WAL STEPHENSON
 BREAKOUT WHY/BILT

Best of CoCoOz #9 GAMES — 32K

TRIOMINO BOB DELBOURGO
 MATCHEM C. BARTLETT
 GO BOB DELBOURGO
 NARZOD MAX BETTRIDGE
 CHOMPER MAX BETTRIDGE
 POPBALL MAX BETTRIDGE
 LUDO WHY/BILT
 SABRE ANDREW SIMPSON
 MOVEABOUT KEVIN GOWAN
 JIGSAW C. BARTLETT
 LABYRINT JAMES REDMOND
 TANK C. STEWART

Best of CoCoOz #10. EDUCATION2.

METEOR DEAN HODGSON
 DRIVTEST ANDREW SIMPSON
 SALE JUSTIN LIPTON
 TABLES PAT KERMODE
 OPALTON IAN G. CLARKE
 CAPITAL LETTERS BOB HORNE
 TEST MATCH JEFF SHEEN
 SENT END BOB HORNE
 ESCAPE DEAN HODGSON
 RAILMATH BOB HORNE
 COUNTDOWN DEAN HODGSON
 WHATZIT BOB HORNE
 HOMOPHONE BOB HORNE
 COMPWORDS BOB HORNE

Best of #11 EDUCATION 3 — Disk only CHATWIN MANOR BOB HORNE

TAPE \$10 each

DISK \$16 each

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Hardware & Software for your TANDY computer.

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