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JANUARY 1987

Vol 3 No.5

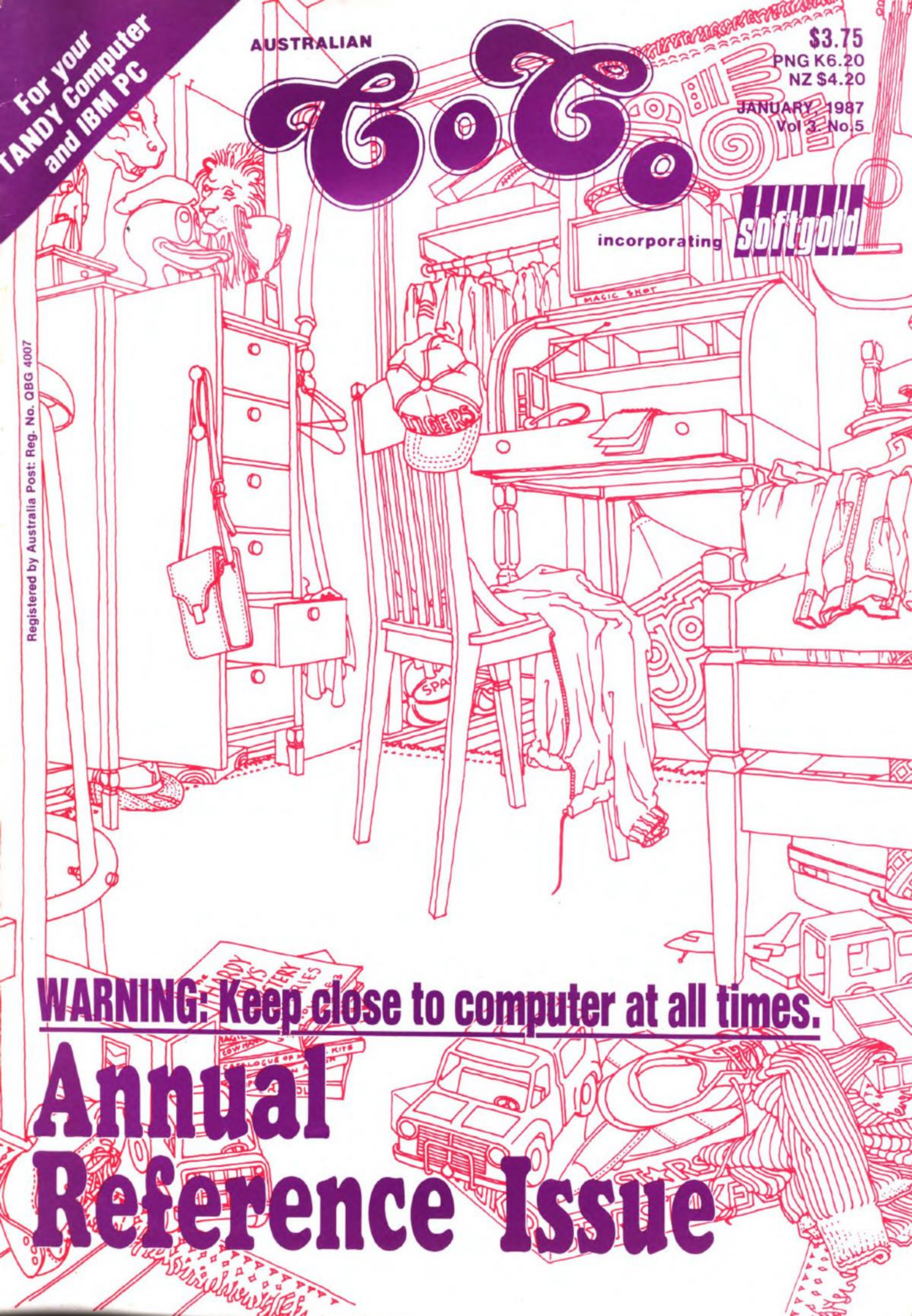
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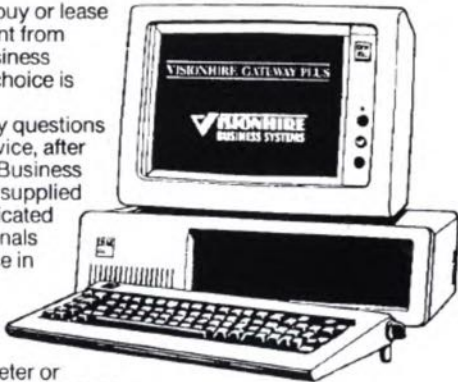
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&

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Who is this magazine for?

This magazine is for users of Tandy Colour Computers, MC-10 computers, Model 100 and 200 users, T1000 and T2000 users.
I.B.M. P.C. and I.B.M. clone users will also be able to use the T1000 programmes and articles in the "softgold" section.

Who provides the material for this magazine?

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

The Crew

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OS-9: Jack Fricker

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Sonya Young and Mike Turk.

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softgold

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clubroom



January, A Reference Issue

This month our magazine is a bit different in that some of what we are presenting, you may have seen before! This is our Reference Issue.

Inside you'll find lots of information which you can keep by your computer throughout the year to help at those times when you get 'stuck'!

This magazine is the result of a disk we've kept specially for it all through 1986.

As articles have come in, we've put aside articles we thought would be of relevance to this issue.

Then we added other information to the original article. So some of this month's authors may not recognise much of their work!

The bottom line is that we're sure you'll refer to this magazine again & again during 1987!

Did you Notice Something Different?

Yes we changed the paper!

Dunno whether we're going to continue to use it at this stage... paper's so expensive, but what do you think?

Australian Rainbow Magazine This Month

Aussie Rainbow is the sister magazine of Australian CoCo Magazine.

Aussie Rainbow caters for experienced users of

Tandy Colour Computers, and every month has a number of programs which range across a wide subject area.

This month for example there are one or two games, a BASIC tutorial, a Disk Basic Tutorial, information for OS 9 users, several programs for Amateur Radio users, utilities and a quantity of reviews of new products on the American market (& not yet available here).

Eggemon

Eggemon has had the same effect on everyone who has read it...but unfortunately we're committed to several more yet!

Seriously, it's amazing how somethings take on!

I'm sure Adrian will have much more to say, if he can still speak with such a swollen head!

New Users

Again this month, many of our readers will be the proud possessors of new computers.

Welcome to this magazine! We want to help you with your new computers and we invite you to phone, write, call in or contact us via Goldlink, should you have problems with those computers.

We want to help.

Tandy Store Award

The Tandy Store Award this month goes to John Oliver at Whitford City.

John has a long association with CoCo owners and a real involvement with the local Tandy Computer users there in Perth.

In fact he tells me that this year he is going to cream Pat Drennan, Tandy's top man in WA!

We'll see - because that's a tough assignment; but succeed or fail, we recognise John and the work he does.

Happy New Year!

From all of us to all of you, have a top year!

We are really excited about 1987! The new CoCo 3, the new Tandy EX & SX computers and the plans we have for Viatel this year really make 1987 a year to look forward to!

So stay safe... especially you Viatellians (!) for your own sakes, stay off there roads if you are going to drink!

We need every reader we can get!



HELP:

TAKING THE FIRST SIMPLE STEPS TO LEARNING BASIC TIME DIFFERENCE CALCULATOR

by Graham Morphett & Friends

16K ECB APPLICATION

Recently a reader in Coffs Harbour asked for a routine which would add one time to another.

The problem sounds easy but holds one or two traps initially.

The major problem is how to make those seconds come up as seconds and not as a decimal value.

We solved the problem by not doing any calculations in decimal.

The times to be added are converted to seconds (lines 30 & 40), then these results are added to each other (line 50). Then this is reconverted to hours minutes and seconds (line 60).

In so doing, we see an example of how INT works - a command many of us would find handy if only we could remember to use it more often!

(INT stops the computer from 'remembering' the 'remainder' in an arithmetic operation. For example PRINT INT(3/2) will give an answer of 1.

This is very useful if you want to work out say, number of boxes required where the answer is required in whole boxes.

If apples come in boxes of 50, and your customer wants 275 apples, the formula PRINT INT(275/50)+1 will tell you how many boxes of apples the guy needs to order.)

Please note that the two times have to be input exactly to the format specified - ie 00 00 00.

To foolproof the system, you might like to add a test, using the MID\$ statement, at line 15 & line 25 to check that spaces are in the correct places in A\$ & B\$.

The Listing:

```
1 '***TIME DIFFERENCE CALCULATOR*
  ***** GRAHAM MORPHETT *****
  ***** 20/11/86 *****
2 GOTO10
3 SAVE"TIMEDIFF":STOP
10 CLS:INPUT"FIRST TIME HH MM S
S";A$
20 INPUT"NEXT TIME HH MM SS";B
$
30 IFT1<=0 THEN H1=VAL(LEFT$(A$,
2)):M1=VAL(MID$(A$,4,2)):S1=VAL(
RIGHT$(A$,2))
35 H1=H1*3600:M1=M1*60:T1=H1+M1+
S1
40 H2=VAL(LEFT$(B$,2)):M2=VAL(MI
D$(B$,4,2)):S2=VAL(RIGHT$(B$,2))
:H2=H2*3600:M2=M2*60:T2=H2+M2+S2
50 T=T2+T1
60 H=INT(T/3600):M=T-(H*3600):M=
INT(M/60):S=T-(H*3600)-(M*60)
70 PRINT"total is hh mm ss:";
:PRINT USING "###";H;:PRINT USIN
G "###";M;:PRINT USING "###";S
75 H1=0:M1=0:S1=0
80 H1=H:M1=M:S1=S
90 GOTO20
```

☺☺

JOYDISK

by Justin Lipton

JOYDISK WAS BASED upon what Alex taught me at CoCoConf about the DSK1\$ and DSK0\$ commands. What this program does is lets you go through the various sectors and tracks with your joystick. Move the joystick right will go ahead one

sector while moving it left will move back one sector. Moving the joystick up will go ahead one track while pulling it down moves back a track. It is very interesting to see what is on your disks.

The Listing:

```
0 GOTO10
1 '***** JOYDISK *****
2 '***** JUSTIN LIPTON *****
3 SAVE"86:3":END
10 CLS
20 CLEAR 500
30 T=0:S=1
```

```
40 DSK1$0,T,S,A$,B$
50 H=JOYSTK(0):V=JOYSTK(1)
60 IF H=0 THEN S=S-1
70 IF H=63 THEN S=S+1
80 IF V=0 THEN T=T+1
90 IF V=63 THEN T=T-1
100 IF S>18 THEN S=1:T=T+1
110 IF S<1 AND T=0 OR T<0 THEN S
=1:T=0
```

```
120 IF T>34 THEN T=34
130 IF T>0 AND S<1 THEN S=18:T=T
-1
140 CLS
150 PRINT @ 0,"TRACK "T" SECTOR
"S:PRINT A$:PRINT B$
160 GOTO 40
```

☺☺

AUSTRALIAN PRODUCT REVIEWS

THE AUSTRALIA II

THE AUSTRALIA II. The 12 metre that one the America's cup in 1983. Now you have the chance to own your own. Tandy are selling the remote control version of the famous 12 metre. The actual model is 51cm long and with the aluminium mast (through which the aerial wire runs) is 81cm. The boat comes in kit form with the hull ready moulded. The modelling job entails detailing the deck and rigging the boat. What is really interesting is that it has the winged keel, modified for the smaller version.

Before putting the mast on I gave the hull a bath tub test and was impressed by the ease at which the hull travels. Graham and I have not as yet tested the boat in outside conditions but all indications would be that the boat is fast.

My only complaint about the whole set-up is that the rigging can get very fiddly. But otherwise I enjoyed putting the boat together and since I did not get a good look at the keel at the time of the race, it was interesting to have a good look at close range.

Maurice Phillips

PAPER ROUTE

This program I enjoyed more than the rest because it did not seem as interesting as the rest.

The object is to get the paperboy to go along his route delivering his papers. The hard part is knowing who is a customer and who is not.

The paperwork states that the customers have a red door and the non-customers a blue door. This is a bit hard to work out in black and white, but I came to the conclusion that the customers have letter boxes!

You get extra points for breaking windows or knocking over garbage cans and tombstones. If you make a perfect run you get a bonus and a new customer.

On the other hand, if you fail to deliver to one of the customers, they will cancel their subscription. To gain extra papers as you go along, you will see bundles along the way and by steering your bike towards them, you pick them up.

The boy is controlled by a joystick and pulling back on said stick causes him to stop. Pressing the button makes him throw the paper.

There are many hazards along the route to keep away from but I won't spoil the fun for you (sinister chuckling). You can get extra boys every 20000 points and you can pause the game to have a break. This game will get you in the headlines!

MARBLE MAZE

This program will appeal to quite a few people, as it follows a labyrinth format.

But... this game is different!

The object is to roll the marble around the maze using your joystick, to the finish line within a given time. You have to ensure you don't go off the edge, and you have to be careful of the monsters in the maze.

KARATE

As a Karate instructor I can relate to this program. I imagined it would not impress me, but the speed and large number of techniques surprised me. They even do things I cannot, like forward and reverse flips.

You can play against the computer or against another person. In the one-player mode you have KARATEKA (blue) on the left, and the computer on the right can block your moves. As you progress the computer gets smarter and gets harder to beat.

The object of the game is to knock down your opponent using a variety of punches and kicks in order to gain points and win matches.

All movements and techniques are controlled by the joystick and probably the hardest part of the game is remembering where to hold the stick and when to press the button.

It is very similar to a karate tournament in regards to scoring and also the fact that each match has a time limit. When your time is up, the player with the most points wins.

Finally, it also has a pause so you can take a break when you get tired.

KNOCKOUT

In the disk version, this game comes on two disks; one for the game and the other for the graphics. The tape version gives you the option of loading the graphics from side 2 of the tape or using the same boxer as before.

The object of the game is to become boxing champion of the world, and having become champion, defend your title against all comers.

All control in this program is from the keyboard. Up and down arrows control your boxers guard. Left and right arrows make your boxer dodge left and right. The "Z" key controls his left punch and the "?" key controls his right.

If your boxer's guard is up, he will punch to the head. If down, he will punch to the body.

You have a power gauge and each time you punch your opponent, you increase your knock out power. When you have enough power your "K.O." indicator will start flashing in the top left corner of the screen.

When you hit the spacebar while you have enough power, your boxer will throw a right hook and this will drain a lot of his energy. You have two energy bars on the left of the screen and when these are gone the boxer has been knocked down.

There are 5 different boxers and each time you fight them they get harder. You also have a pause facility and a high score saving facility.

All these programs are available from me on either tape or disk. I am trying to keep these prices as low as possible because high prices breed piracy. (The big NO-NO). Disk or tape are both priced at \$39.95 to start with. They are available from either of these addresses:

Barry Clarke
St. Mary's Software,
11 Gleeson Rd,
Burlpengary 4505 Q
(07) 204 2806
(07) 888 2806

Barry Woollet
1 Clucas Rd,
Dharruk 2760
NSW
(02) 625 7742

MICO NEWS

Editor Jim Rogers

To all our readers a Happy and Prosperous New Year! Now that the festivities are over and you have all had a Merry Christmas it's time to get back to the keyboard!

Beginning with the November issue, how do you like the new format? In my own opinion it is, with one exception, the best issue of CoCo which has been turned out to date. That exception, which Grahame Pollock has pointed out to me, is that a mistake was made when we headed the MC10 programs with the rider that they would also run on the 16 K. The PEEKS and POKES for MC10 are different for the CoCo and we are going to have to give you the alternatives.

Somewhere in the new format we, the MICO's, seem to have gained something. Twelve programs in there for November and who knows what it may eventually lead to? Maybe the name will have to be changed from CoCo to MICO in very large letters. I know that Graham feels that he has been cheated somehow and that our portion is a little large. He thinks he is being white anted. Anyway like Oliver Twist we will just keep asking for more!

Just about this time we will all be waiting and wondering on the results of the experiments by Scott Ferrero. Do we have a disk drive yet?

By the way, if anyone can help, Scott is in the market for an old white or grey case 64 K COCO. It can be busted, croaked or have scrambled brains. he only wants it for parts in his very worthwhile experiments. Any offers will be appreciated by Scott at 22 Deans St, Clontarf, QLD 4019.

At the time of you reading this I expect to have received some very interesting programs promised by Admirable John (Irish Washerwoman) Day and with luck you may be able to try them out in the next issue.

It may be of interest to those who do not yet have contact with our USA cousins, the MC10 Users Group, that our Grahame Pollock and Frank Rees are prominent personages in their magazine.

Anyone wishing to contact MC-10 Users Group write to:-

LARRY HAINES
E 2924 Liberty St.
Spokane WA 99207 USA
or
LARRY ALLEN
Box 103
Owensville IN 47665 USA.

It could be a well worthwhile exercise. I am hoping very soon to have permission to publish parts of their magazine.

In the meantime go ahead and enjoy your first issue for 1987 and may it be the worst copy we turn out this year.

Jim

Bauer Board

Some months ago I made mention of what had become known as the Bauer Board. It was of particular interest to me and I thought it would be worth while passing on to the readers as it was a method of expanding the MC10 by means of the MC10-X kit manufactured and supplied by Michael J. Bauer. I was unable to contact Michael at that time but eventually received a letter from him via the kind help of Frank Rees.

This report from Frank tells it all!

MICHAEL J. BAUER AND THE DREAM 6800

Michael J. Bayer, lecturer in Electronics and Computer Science at Deakin University in Victoria, had published, in the May 1979 issue of Electronic Australia, his Dream 6800 do-it-yourself computer construction project.

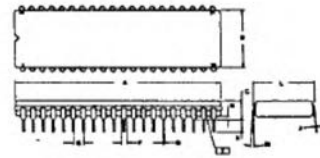
It was based with 6800 and Chip 8 languages and, despite a modest 1K of ROM and 1K of RAM, is a very good computer to use. It was a great success with hundreds having been built and then expanded with various add-ons.

Michael left teaching for a while and worked on a commercial computer based project only recently released. It is an all electronic AC Kilowatt Hour Meter (i.e. Domestic Electricity Meter) for which he developed all the software. It is based on a 6805-R3 (MCU+A/D converter) and is called EMS 2000. His name also is on the patent.

When the MC10 was released Michael developed some wonderful things for it of which, with his permission, much will be made available to all readers.

Michael is teaching again at present and does not wish to go public himself on his work but as one of his keen students I will be glad to help where and when I can.

FRANK REES.
27 King St.
Boort, Vic. 3537.



The M.J.B. Tape

Frank Rees has forwarded to me a copy of the MJB (Michael J. Bauer) tape with the following instructions enclosed:-

MJB (F000-FFFF) and M-MJB (8000 - 8FFF). Side B contains copies of the EPROM by MJB for use with the MJB Expansion Board (MC10-X). With the flick of a switch and RESET the MC10 gets a COMPLETELY DIFFERENT OPERATING SYSTEM with monitor, editor, tape support and Chip8 interpreter instead of BASIC.

Side A is a modified MJB system moved into RAM which allows the MC10 to run with a completely different operating system in RAM. Relocation causes a loss of HIREs. Chip8 and RESET cannot be used, requiring care with the tape SAVE and LOAD. RESET can't be used to recover from error. There is a menu of instructions with H for Help.

To LOAD, CLEAR 100,32000:CLOADM. EXEC after CLOADM. Modify 5200-1 to F000 so system will not crash if "C" is used causing Chip8 to be called. BREAK operates to warm RESET. While the Instruction Book with the Chip is extensive, much can be worked out by trial and error because of the system structure. Tape copy posted anywhere in Australia \$5.

LETTERS

Dear Graham,

I really enjoy reading the magazine and am really pleased that so much programming talent exists in Australia.

I realise how much trouble it would be to give just one person the Greg Wilson award. That is why I thought it would be easier to award one in each state. Because of the great skill shown by our programmers in this country, the idea might make giving this award slightly easier.

Keep up the good work.

Yours Truly
Tania Hardy
VIC

Tania,

Nice idea.

For now, to keep it special, we're going to maintain the system as it is.

This year's winner, Brain Dougan, was voted for by users from across Australia, so he won fair & square!

Graham

*

Dear Graham,

Your Viatel board doesn't hold much interest for a CoCo owner.

The messages on it remind me of the type of thing I heard when C.B. radio first came out. My C.B. is in the cupboard and will stay there. I've got more to do than logon and say hi, how are you, gotta go now.

Have a look at the Microline (I think) 666 section of Viatel. Questions and answers go on for pages. That section is all C64 etc (yuk) but that's what we really need on Goldlink. Think about it!

Further on the same theme, here in the forgotten north, we suffer from a lack of contact with other CoCo users. Our User Group is just going but I'm the long time user of the group and they all come to me with their questions. Who do I ask? I fix it myself or do without.

You can see my comments above are relevant to my situation. Of course I can always try ringing someone like Jack Fricker. He's most helpful, but STD costs heaps.

Anyway I'll start it next time I'm on Viatel. I have a few unanswered problems. It's up to you to carry it on.

REMEMBER GREG WILSON'S NETWORK.

Jeff Larson
QLD

Jeff,

You touched on the key to the problem.

The exciting thing about Goldlink to me is that it can be anything to anyone.

If I'd had to wait for CoCo owners to put "worthwhile" messages on our boards, we wouldn't be on Viatel still.

On the other hand, you know where our bias is, and we nightly eject superfluous messages from the Tandy board to give the "serious" users a go.

Ultimately it is up to the "serious" users to make use of the facilities the rest of the system pays to provide them.

I might add that since the release of the CoCo 3, THE place to get the latest news HAS been the Tandy board, so much so that we have created a "Golden Oldies" section where the questions &

answers that are most relevant are being held on the system a little longer.

The bottom line is this: there are two boards for "serious" users of Tandy machines, the Tandy board & the OS 9 board.

They are 'protected with bias' boards, in that ratbag messages are usually ejected.

They take more to look after & they cost, but they are where we want to be, & they are our original reason for being on the system.

None the less, I disagree with your comments on other boards.

An individual message - often even an individual night's messages - can look like early CB. But what is happening is much more than that.

The people come online for companionship, entertainment, & to enjoy themselves.

Not everyone will enjoy everything on a particular board, and we have already demonstrated our interest in and ability to create boards reflective of the wishes of our users - so if you have a need not being met, speak up!

Remember, members of Goldlink have no cost (except line time) limitless access to any of our boards, so use the ones which suit you!

Graham.

*

Dear Graham,

Amidst all the confusion of whether to have lowercase or not to have lowercase, I finally got around to undertaking the relatively minor task of upgrading my CoCo to enable the in-built TRUE lowercase letters as specified by Kevin in the November edition of CoCo.

Having owned the 64K CoCo for only seven months, it was the later "slashed colors" version (#26.3127B) and after reading of I. Mauvie's hassles in the Dr CoCo Column in July's magazine, then I decided to risk my CoCo health by doing this bit of surgery. Not being that much of a "whizz-kid", (I didn't say that!), I was surprised at how quick the upgrade took.

To my surprise, the upgrade worked first go and I felt the strike-back of this upgrade; no color in the PMODE 1 or 3 graphics screens used in conjunction with the SCREEN1,0 command - instead of accessing the two different 4-color sets, you obtain the equivalent in the 2-color set. A major disappointment, it was, until I realised the full worth of the SPDT switch which disables the upgrade to provide for the color in the hi-res graphics mode.

Unfortunately, our beloved CoCo still hasn't learnt to "understand" lowercase letters, which isn't that much of a problem if you've lived with it before. Finally, if you do own a CoCo2 with the "slashed colors" on the badge, then carry out the upgrade - it doesn't take long and is probably the cheapest upgrade you'll ever make on your computer, and besides, the results are rather rewarding - it's like having an extra 32 characters at hand (including the ASCII nos. 96 and 123-127).

Michael Saliba.

NSW

Dear Graham,

I am seriously considering buying a copy of CoCoMax, however, before laying out the cash could you please advise me about the value of the program and is there a better program around for a similar cost that does the same or better kind of job. Your advise would be much appreciated. You might even be able to supply me with the name of a supplier of the program other than Tandy, where I may receive a better deal.

Steve Issanchon,
Thornlie, WA

Dear Steve,

CoCoMax is a top program.

The latest version, CoCoMax II is well worth obtaining as it as a number of additional features over CoCoMax 1.

There are other Screen Graphics programs around (eg Graphicom) but they are no longer supported here in Australia and in our opinion are not as good as CoCoMax II in any case.

Computerware for Micros in Adelaide supplies CoCoMax II in Australia, so you could try them.

*

Dear Graham,

I am currently considering marketing my own software and was hoping that you could give me some idea of how to go about it, and what is involved in undertaking such a project.

I have been computing for approximately six years and have just recently updated to a CoCo 3 but still have no printer or disk system. I am able to program in both BASIC and MACHINE CODE.

Could you please give me some idea of what language would be the best to program in and if possible what type of software has the public most interested in, although mine is graphic adventures. I am hoping to write and market this sort of software.

I would be grateful for any help possible.

Simon Kalick,
Fountain Gate, VIC

Dear Simon,

There is a real continuing interest in Graphics Adventures and Arcade Games.

The Computer Hut in Bowen and ourselves attempt to foster new programmers as much as possible.

In our case, we can only do so much!

This year, in conjunction with Tandy, the top programs submitted to us will not be printed until we've decided on the Games Programming Contest winners.

The winning entry will be purchased by Tandy for distribution in their stores!

The Computer Hut, on the other hand, has already sold one Aussie program in the US, and markets others here.

The aim of this magazine is to assist programmers at every level.

If you think you have something of commercial standard, send it - appropriately marked - and we will provide you with an accessment.



doctor COCO

Dear Dr CoCo,

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

I was wondering if you had any books packed with programs, mainly because I am interested in how they are put together and also I am putting together a computer program so that I can get ideas from them for this program that I am doing.

Ps, could you tell me your phone number, please?

Alan Torney
Janbin QLD

Dear Alan,

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

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

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

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

*

Dear Dr CoCo,

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

Joseph Timperos
Nabowla, Tas

Dear Joseph,

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

*

Dear Dr CoCo,

Could I get some help with the following?

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

* The CoCoZone requires a red screen to

take off. We have never been able to achieve it. Curiously line 8 reads LOAD"ZONE", not LOAD"COCOZONE" which is the name of the file in the directory.

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

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

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

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

Paul Sowter
Westleigh, NSW

Dear Paul,

Here are some recommended tips on fixing the above programs:

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

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

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

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

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

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

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

*

Dear Dr CoCo,

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

Thank-you.
Raymond Stephens,
NSW

Dear Raymond,

As far as we know, there aren't any

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

*

Dear Dr CoCo,

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

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

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

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

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

There is also a ?SN ERROR in 480.

Help!
Joyce Simpson
Miles, QLD

Dear Joyce,

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

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

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

The error in line 480 should have read:

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

The error in line 205 should read:

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

I hope this clarifies everything.



COM * STATION 642

GOLDLINK 64231422a 0c
 Clubroom Goldlink Member
 From: 024926640
 WED 19 NOV 1986 18:19:22

Hello peoples, Ge Tandy sure have enthus lastic staff, I walked in the door to buy the Nov CoCo and 3 of them literally pounced on me, and offered me immediate help on any number of problems I might have, 10/10 for SERVICE, thats great!!!!

Lady Daisy xx

That store has been told WHO you are & how important you are!

*

GOLDLINK 64231487a 0c
 Clubroom
 From: 829441940
 WED 19 NOV 1986 23:48:32

I have a complaint about the quality of your magazine Graham. The copy I bought from the local Tandy store was so good that it went walk-about. So I have to keep the one you sent from Queensland after all. (Don't let it happen again!)

Gypsy Rover

This is getting complex!

*

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

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

U SUALY
 F INDS
 O UT

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

*

GOLDLINK 6423535a 0c
 Tandy Users' BBS Member
 838155830
 THU 27 NOV 1986 23:39:11

FOR LATEST COCO2 & COCO3: Want true lower case in 32 x 16 screen? Type POKE 359,57:POKE65314,21.
 Want that with inverse video? Type POKE 359,57:POKE65314,52.
 Want the same but orange on black? Type POKE 359,57:POKE 65314,57.
 And for normal text black on orange Type POKE 359,57:SCREEN 0,1. ... in each case revert to normal with POKE 359,126.
 IN OS9 use DEBUG to change location \$FF22 to \$15 or \$34. Compliments of A.M.U.G. ADELAIDE ...Regards Allan T.

*

GOLDLINK 64231451a 0c
 Clubroom Goldlink Member
 From: 755105770
 MON 01 DEC 1986 23:24:17

no no no i'd waste the bastard then i'd up my mark..if you'll pardon the expression

darcy
 molly did you see those pictures in the office today? the ones from SA grand prix.. what were those two men coming out of the toilet doing in there, is that what they call a study group? still it was SA.

Yes, I saw the pictures...The mind boggles, doesn't it.

*

GOLDLINK 6423533a 0c
 Tandy Users' Board
 625890240
 WED 26 NOV 1986 18:14:06

Announcing..Automatic Graph-It.

- + Plots any single equation in a Y=X... format.
- + Independent X-Y axis with separate scales, Draw Axis, Grid & Numbers.
- + Compare different equations on the one screen.
- + Easy to use, Menu-window driven -operation.
- + Requires Extended basic CoCo+Joystick.
- << Program & manual, Only \$20. Tape only Design Plus, Viatel No. 625890240.

*

GOLDLINK 64235610a 0c
 OS9 Users' Board Member
 705471270
 MON 17 NOV 1986 23:17:41

Very frustrated user, check your KB for what may help you. OS9 V2.0 keeps better time (still not perfect) but is far bigger. Needs to be stripped to compile C programmes ETC. Will not do anything decent with extra modules loaded. My main system is still running with V1.01, although I have Wordpack II, 2SP pack.

JEFF

*

GOLDLINK 6423667a 0c
 The IBM PC & Tandy 1000 Board
 374956010
 SAT 22 NOV 1986 23:51:57

COULD ANYONE HELP ME SOLVE A PROBLEM I HAVE WITH SOFTWARE FOR THE IBM. I HAVE AN ACCOUNTING PACKAGE THAT WHEN I INITIALIZE IT IT GOES TO LOOK FOR A CERTAIN FILE AND TELLS ME THAT FILE IS NOT THERE. HOWEVER WHEN I DO A DIR THE FILE IS ON DISK AND LOOKS NORMAL. WHEN USING NORTON UTILITY I ASK FOR A SCAN FOR THAT FILE AND IT COMES UP AS NONEXISTANT. ANY HELP IS GRATEFULLY ACCEPTED. PLEASE MB ME.

~ Sounds like a partial disk crash to me

*

GOLDLINK 64231438a 0c
 Clubroom Goldlink Member
 From: 379900200 Jokes Leader
 SAT 22 NOV 1986 15:28:41

JOKE....

An englishman, an australian and of course Paddy. They find a magic slide. Any liquid they shout while on the slide will be waiting at the bottom for them to splash into. The Englishman starts off and shouts WINE. When he gets to the bottom he lands in wine. The Australian starts and shouts BEER and sure enough he lands in a lake of beer. Paddy gets on, gives himself a good push off and shouts...WHEREEEEEEE

Snake Byte..

*

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

> QUICHE

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

*

;;D;IK 64234625a 0c
 Carry's Kitchen
 357882260
 SAT 22 NOV 1986 14:20:28

> NONI'S WILD! WILD! RECIPR.....

ok.1 slice of onions mixed with desert rat, then add pepper to 5 slices of Rubber Duck, stir fry for 5mi. then put B ig 'M and Ggoose in the frying pan & add Gypsy Rover Wine 86 vintage. Then grab a leg of Wombat and stick it in the oven for 10min. Use a little Daisy if o& en Pessant on the Bat & Strike a six on the oven. Please make sure you use the new European Vortex oven. Desert, Please do not Take offence to this Crazy Message.....NONI.....

*

GOLDLINK 64235611a 0c
 OS9 Users' Board
 234491110
 TUE 18 NOV 1986 17:06:49

OZWIZ: Are you using DECB1.0 through a multipak? It needs 12volts, can be taken from the RGB connector internally to the old 12volt line on the Pak Port. I have 1.0 working fine on coco3.

Xcom9 user: I found trouble with this program under 1.01, but it runs fine if you use it with 2.0

--Rosko!--
 *

GOLDLINK 6423664a 0c
 The IBM PC & Tandy 1000 Board
 624783820
 SAT 15 NOV 1986 10:22:41

Feel like flying at twice the speed of sound then try JET for the IBM PC it is out of this world.

The Doctor.

Did you know that anything that is 100% IBM compatible is illegal ???

K-900.
 (canie-boundred)
 (The sidekick)
 *

GOLDLINK 64231463a 0c
 Clubroom Goldlink Member
 033119340
 TUE 02 DEC 1986 13:18:20

> Godafternoon everybody.

Wombat.. I didnt send that message. (check MB no).

Mr X(ylarthen) you are DEAD!!!
 (also I no longer use tasMANIAC)(now sign Tasmaniac)(com-jok's couldnt write the other one)

Tasmaniac

*

GOLDLINK 6423666a 0c
 The IBM & Tandy 1000 Board Member
 939052770
 TUE 18 NOV 1986 00:03:05

HI PEOPLE REGARDING THE BEST PLACE TO BUY A T1000.....

THERE IS ONLY ONE PLACE AND THAT IS TANDY BELMONT WA...

WE GIVE THE BEST SERVICE..... AND THE BEST AFTER SALES SUPPORT.... COME AND GIVE US A GO AND BE PLEASANTLY SURPRISED.....

REGARDS PAUL
 MANAGER

*

GOLDLINK 64235614a 0c
 OS9 Users' Board Member
 705471270
 SUN 30 NOV 1986 19:23:34

The message from getting less frustrated is answered in Nov 86 Aust Rainbow page 43. Wordpack (I and II) are addressed at \$FF9C and \$FF9D which will NOT be available on the coco 3

JEFF

*

GOLDLINK 6423537a 0c
 Tandy Users' BBS Member
 705471270
 TUE 02 DEC 1986 19:37:20

Does Tandy's new monitor for the coco 3 have an input for composite video as well as RGB analog?

JEFF (feeling rich)

No.

*

GOLDLINK 6423536a 0c
 Tandy Users' BBS Member
 262289400
 TUE 11 NOV 1986 20:54:45

Jef,

I have the Service Manual for the Models Cat No. 26-3001 & 26-3002. If I can be of any help M.B. me. //ART//

*

GOLDLINK 64231469a 0c
 Clubroom
 From: 262416830
 TUE 02 DEC 1986 20:23:09

Hi everyone. I am not on this board that much but I will be on here on Friday night. Does anyone feel like giving me a MB, and I will be very happy.

ROCKY BALBOA

*

GOLDLINK 6423932a 0c
 Life's Most Romantic Moments
 062002800
 TUE 02 DEC 1986 14:48:29

> Perhaps my most romantic moment of all time happened today. I had just had this really bad argument with myself (& I mean BAD). Started over something silly really - don't they always? -(I forgot to kiss my reflection going past one of my many strategically placed mirrors especially placed for this purpose) and consequently, a fight ensued resulting in the worse argument I've had with myself in a long time. I thought I'd NEVER forgive me! (but oh, was the making up with myself afterwards good!) ROX.

*

GOLDLINK 6423368a 0c
 Amateur Radio Users'
 714457200
 SAT 04 OCT 1986 08:10:10
 De VK4ST Are there any other operators on the Sunshine Coast who would like to exchange programmes via modems? QSL!
 73 Brian

*

GOLDLINK 6423239a 0c
 Rail Enthusiasts' Board
 342820950
 MON 01 DEC 1986 19:41:31

WANTED: RAILWAY VIDEOS PREFERRED. BETA SEND TITLE, PRICE REQUIRED AND YOUR PHONE NUMBER TO: LEO BIRD
 VIATEL 342820950

*

GOLDLINK 64231464a 0c
 Clubroom Goldlink Member
 From: 068000570
 TUE 02 DEC 1986 17:07:56

Gypsy Rover,

WHAT LEAD, WE HAVE NO PROBLEM HERE WITH IT!

THE PORT PIRIEANS JUST LIVE LONGER THEN THE REST OF THE WORLD!

Luv Deb 007xx

*

GOLDLINK 64233311a 0c
 TV Talk

357882260
 MON 01 DEC 1986 23:07:14

ZWILIGHT ZONE IS BACK !!!!!

THIS B/B REALLY WORKS...

THANKS FOR INFORMING ME NINIANE.

GOOD WORK GOLDLINK!

.....NONI.....

*

GOLDLINK 64236311a 0c
 Commodore Users' Board

722919410
 SUN 30 NOV 1986 19:50:11

Does anybody here know how to download a programme from VIATEL?

The software I have doesn't seem to support this function. Please contact on the above MB number for any help..

Thankyou..

*

GOLDLINK 6423437a 0c
 Atari Users' BBS

034497700
 MON 10 NOV 1986 19:56:42

To Atari users: In edition 258 of MAD magazine there is a computer program for the atari. If have that issue then what is the PGM like?

UNKNOWN

Is that where you get your programs from? (Just kidding...)

*

GOLDLINK 6423932a 0c
 Life's Most Romantic Moments
 062002800
 TUE 02 DEC 1986 14:48:29

> Perhaps my most romantic moment of all time happened today. I had just had this really bad argument with myself (& I mean BAD). Started over something silly really - don't they always? -(I forgot to kiss my reflection going past one of my many strategically placed mirrors especially placed for this purpose) and consequently, a fight ensued resulting in the worse argument I've had with myself in a long time. I thought I'd NEVER forgive me! (but oh, was the making up with myself afterwards good!) ROX.

*

rogues' gallery



Three desperates!



Yes ... its a G. L. A. S. S.



Helen Entertains!

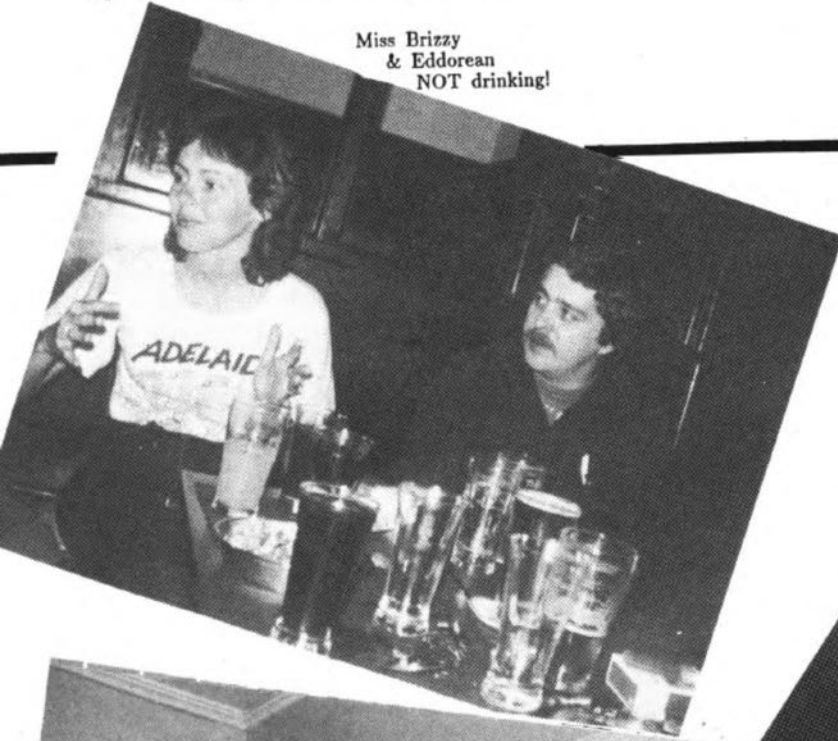
Its terrible what can happen when you fall asleep at the wrong time, in the wrong place!



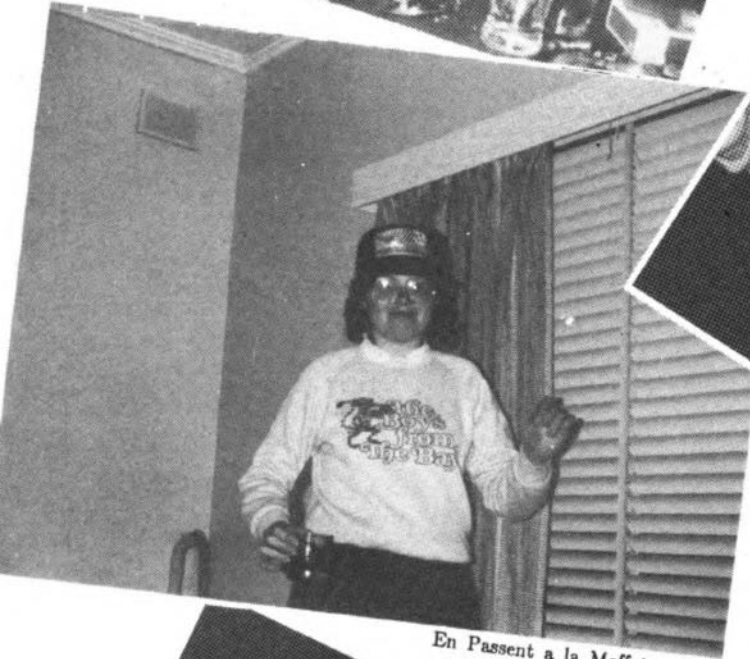
Mopar - looking better!

Photos from a recent Viatel Bash in Melbourne
& from the Adelaide Grand Prix (Goldlink section)
by Ratbag & Lord Schizoid.

Miss Brizzy
& Eddorean
NOT drinking!



What????



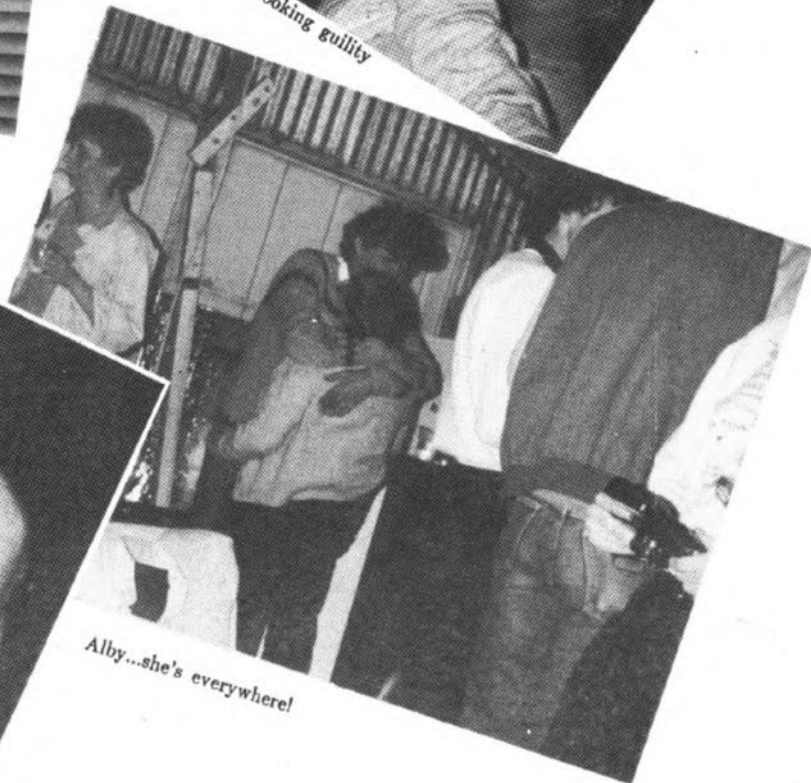
En Passant a la Moffat



Rubber Duck looking guilty



Ratbag, Lucky & Miss Brizzy!



Alby...she's everywhere!

EGGEMON !



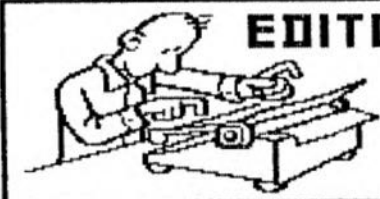
MAILING ADDRESS:

Eggemon!
236 Dugald Way
Karratha
WA 6214

DIATEL USERS:

Send all correspondence
To MB No. 918538830

EDITORIAL



Psssst !

This is EGGEMON!

We've just moved in, and we don't want to wake the Editor.

This is meant to be a secret but, while everyone was out, we found one or two spare pages in this magazine looking very vacant. Now who would want to leave a cute, homely piece of page like that lying out in the backwaters of society.

So, taking this rather undervalued piece of property, we thought we would move into the neighbourhood.

Mind you we certainly could have chosen better. What with Martha only just a few pages down, and the index with it's blue uniform and pointed cap ready to take down our title and page number at the end of our block, well, it kind of sets one thinking.

Anyway, enough of the rubbery pre-fabricated non-sense that you generally accustomed to. This is Eggemon magazine!



"Our revered Editor"

Somewhere behind the first word, you'll be bound to find Jokes, competitions, smelly socks and the slickest humour around this side of Melbourne.

If this is not the case, please let us know within thirty days and we'll promptly burn your letter in the nearest (We wouldn't do things like that would we?)

Actually that kind of behavior might be the norm in 'certain' residences just a few pages away, but definitely NOT the sort of thing that happens in such a reputable magazine such as yours truly.

(Don't you believe it! -ed.)
Stay tuned to the Eggemon! pages, your lifeline to the real (?) world.

YOUR EDITOR

Irrelevantly Pours

Ever notice that it takes as much heat to melt a kilo of snow as it does to boil a litre of soup at room temperature?

speaking of boiling, some tropical fish can survive in an aquarium full of human blood for simply ages!

(some readers can too! - Ed)

Baron Dominique Larrey, napoleon's surgeon could amputate a man's hand off in fourteen seconds flat.

Not to be out done, one pickpocket out on holiday from England to australia during the convict years eventually became the chief of police in Parramatta.

Page 14 * Australian CoCo Magazine, January 1987

STORIES FROM IRELAND

Sean was confessing his sins to Father Patrick.

"father, Oi've sinned. Oi've been bedding down with a married woman."

"Ye've what!" said the priest.
"Carnal Knowledge, God fergive Ye, 'tis a mortal sin and Oi'll need to be knowin' the name of the misbegotten sinner you slept with."

"Shure, I couldn't tell you that father. It wouldn't be honourable."

"Sean, Ye let me be the judge of that. Now who was it? - was it Ada Murphy?"

"No," said Sean. "No, it wasn't Ada Murphy, father. Don't be askin me, Oi can't say."

"Listen Ye unfortunate divil. It will be better for ye if yo tell who it was. was it Mary Finnegan?"

"No father, it was not Mary Finnegan. Father, forgive me but I cannot reveal who it was."

"Well if ye won't tell me, away and do penance," said the priest. "Say ten Hail Marys and three novenas."

Nick was waiting his turn outside the confessional. "How was it? What did you get?", he whispered to Sean.

"Foine," Sean whispered back. "Ten hail Marys, three novenas and a couple of good leads."

A JEWISH STORY Two smart ladies met in the street. "Beckie your looking wonderful! What have you been up to?" "Molly, guess what! I'm having an affair."

"An affair! Wonderful! Tell me, who's doing the catering?"

SAY THAT AGAIN?

Did you know that mongolia is the largest inland country in the world?

Well, until only recently, the most common method of execution in Mongolia was to nail condemned prisoners into wooden boxes, and then leave them out on the mongolian plateau's.
(NICE EH? ed.)



Having absolutely no relationship to the above, but equally unimportant, was the fact that famous actor Yul Brynner started out in the acting profession as a trapeze artist.
(Not old buddy Yul NEVER!)

Bad hunting in the Cities I'm afraid. In Winnipeg, Canada, it is illegal to use a Bow and Arrow in the streets.

A SMALL EXPLOSION?

On the 16th July, 1945, the USA exploded the first Atom Bomb in New Mexico, a south western state. After a small sound carried 200 miles away, and an insignificant mushroom cloud lifted 40 000 feet into the atmosphere, the US army sent out a Bulletin saying that an Arsenal had accidentally blown up.
(WHAT? NO COVER UP? your choking!)



Plenty of mail this week. Keep up the good work hate mail fans. This week we happened to find one community letter, and one or two others. We do ask however, that you please write in english. Sadly, our translators failed in French.

One Mucs R Zgorf complained of various punctuation marks going missing in his issue. If any body has seen them, please return to EGEMON or we will see they stay there in th. future. (You Hope).

Another question that came up, was why a certain individuals name kept cropping up in the last few issues of this magazine. That is because she not only got her alsorts answers in on time, she managed to beat the runner-up pretty badly.

In answer to Miss Ferris' letter, we would like to announce that you would have recieved 50% in the issue four alsorts game if your answers had been in on time.

GNB all answers, columns, letters MUST be in by the following thursday of your recieving this magazine, if they are to be included in the Alsorts game, printed, or answered - EDITOR)

We also recieved letters addressed to Egemon International, our father Co. They were duly sent on.

Thanks to all who wrote,

Bye for Now - EGGSaminer of lettuce

Competition Arena

To keep everybody on their toes somewhat a competition has finally been organised.

Any body who can answer all the questions listed in the Question Box will recieve some kind of Pressie in the mail along with their issue of EGEMON! Also we shall print your name real Big in our next issue.

All you need to do is answer the questions and send them in before our next issue arrives on your doorstep.

THE ALLSORTS Q&A GAME

1. With what do you associate the international sizes A0 to A10
 - a. Liquid
 - b. Bread
 - c. Paper
 - d. Hay
2. Where will you find NU, OMICRON, XI RHO and TAU ?
 - a. In Thailand
 - b. In the theory of relativity
 - c. in the human body
 - d. in the Greek Alphabet
3. Who discovered Australia in 1606 ?
 - a. Henry Hudson
 - b. William Janzoon
 - c. William Dampier
 - d. Ferdinand Magellan
4. Who discovered Greenland in 982 ?
 - a. Eric the Red
 - b. Edward the White

- c. Leif Eriksson
- d. Cedric the Blue

5. What was the name of the ship in which Sir Francis Drake sailed around the world between 1577 and 1580 ?
 - a. the Endeavor
 - b. the Centurion
 - c. the Victory
 - d. the Golden Hind
6. Who reached North America around the year 1000 AD ?
 - a. Jacques Cartier
 - b. Christopher Columbus
 - c. Leif Eriksson
 - d. Bartholomew Diaz

OOPS! The solution to the THINK ABOUT IT question- How many saturday nights until you are eighty should read:

Using a calculator:

$$(800 - \text{Your Age}) \times 52 = ?$$

AFTER THOUGHTS

Kilts were worn in France before they were worn in Scotland and also kangaroos cannot jump if their tails are off the ground.

Giggle Time

What fish are other fish most scared of?
JACK THE KIPPER

Who is the biggest gangster in the sea?
AL CAPRANN

What's yellow and leaps from cake to cake?
TARZIFAN

What do frogs drink? CROAKER COLA

What happens when a frogs car breaks down?
HE GETS TOAD AWAY.

RECIPES

Have you tried those half cooked Egg recipes lately

To save all those that even tried we are attempting to bring the latest recipes in the garbage bin

EGGS FLORENTINE

INGREDIENTS:

750g spinach	Salt
25g butter	ground pepper
1/4 tsp nutmeg	4 Eggs

SAUCE:

25g butter	300ml Milk
25g plain flour	50g grated cheese

HOW TO DO IT:

Cook and drain the Spinach. Return to saucepan. Add butter, Nutmeg, Salt and Pepper, and Keep Hot. To make the sauce, melt the Butter in saucepan, add the flour, Cook without browning for 2-3 min. Gradually add the Milk, simmer for 2-3 minutes, stirring constantly. Stir in half the cheese, the salt and the pepper. Keep Hot. Poach the Eggs until just set. Put the spinach

In an oven proof dish and arrange the Eggs on top. Pour over the Sauce, sprinkle with the remaining cheese and brown under a preheated oven.

SERVES 4

BETTER FOR MICROS



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

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

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

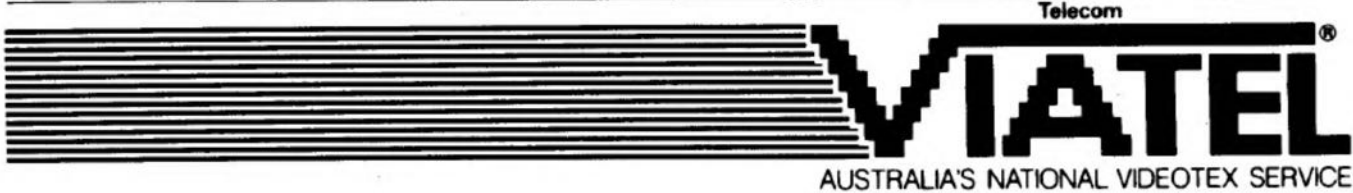
That's just part of what Goldlink 642 offers. And Goldlink 642 is just part of what Telecom Viatel offers. You can also bank with Viatel, place bets, buy and sell shares, book travel, and much more. Instantly, easily, economically. 24 hours a day.

Ask for a free brochure at any Telecom Business Office. And start using your micro in a whole new, better way.

* Coming



Telecom Australia
Better for Business



APPLICATION FORM

DATE OF APPLICATION / /

(BEFORE COMPLETING THIS APPLICATION, PLEASE READ REVERSE SIDE CAREFULLY)

section 1

PLEASE TICK APPROPRIATE BOX TO INDICATE SERVICE REQUIRED

BUSINESS SERVICE **NON-BUSINESS SERVICE**

(CHARGES INCURRED ON BUSINESS SERVICES ARE USUALLY TAX DEDUCTIBLE)

SURNAME (OR BUSINESS NAME IF BUSINESS SERVICE) **GIVEN NAMES**

POSTAL ADDRESS NUMBER/STREET

SUBURB/CITY **STATE** **POSTCODE**

TELEPHONE NUMBER ON WHICH SERVICE IS REQUIRED (INCLUDING STD CODE)

section 2

CONTACT NAME (IF BUSINESS SERVICE) **GIVEN NAMES**

POSTAL ADDRESS FOR BILLING IF DIFFERENT FROM SECTION 1 ABOVE
NUMBER/STREET

SUBURB/CITY **STATE** **POSTCODE**

CONTACT TELEPHONE NUMBER (INCLUDING STD CODE)

section 3

PLEASE DESCRIBE NATURE OF BUSINESS (OR OCCUPATION IF NOT A BUSINESS SERVICE)

PLEASE INDICATE TYPE OF EQUIPMENT USED TO ACCESS VIATEL

special instructions THIS FORM SHOULD BE HANDED IN AT ANY TELECOM BUSINESS OFFICE OR MAY BE MAILED WITHOUT A STAMP TO FREEPOST 20, VIATEL BOX 188C, GPO MELBOURNE, VICTORIA 3001

PLEASE ALLOW TEN WORKING DAYS FOR PROCESSING OF APPLICATION AND RETURN MAIL ADVICE.

telecom use only

OPE _____ PP _____ VN _____

_____ BG _____ SC _____ CI _____

REF _____

REGISTRATION AND SUBSCRIPTIONS

Customers must register as a Business Service if the telephone number nominated for the use of the VIATEL Service is a Business Service and/or VIATEL is to be used wholly or mainly for Business, Commercial, Industrial, Professional or Government purposes. (Charges incurred on Business Services are usually tax deductible.)

Where a Business Telephone Service is nominated for the use of VIATEL, but the use of VIATEL is wholly or mainly for Non-Business purposes, the Customer may be registered as a Non-Business VIATEL subscriber, providing the registration is taken out in the Customer's personal name and address and not a Business name.

Telecom Australia will register the Business or Individual named under Section 1 as a Customer of its VIATEL Service and will provide the Customer with a confidential Customer Identity Number and Personal Password by mail.

Where billing address is indicated, bills and bill related correspondence ONLY will be forwarded to that address. All other correspondence will be forwarded to address under Section 1.

Customers should advise VIATEL of any change of address as soon as possible.

If you lose your Customer Identity Number and/or Personal Password, you must advise VIATEL in writing before new numbers are issued. Our postal address is: Freepost 20, Box 188C, GPO Melbourne, Vic. 3001. FOR SECURITY REASONS REPLACEMENT NUMBERS AND PASSWORDS CANNOT BE PROVIDED OVER THE TELEPHONE.

Customers of VIATEL acknowledge that their name and registered VIATEL Number will appear on the VIATEL Mailbox Directory and that Service Providers and/or other registered VIATEL users may send messages to their VIATEL number.

Telecom Australia undertakes no responsibility in relation to the accuracy of the information or service provided by Service Providers on VIATEL. Telecom Australia will not be responsible for any loss or damage arising out of or in any way connected with the use of this information or service.

Attention is also drawn to the terms and conditions governing the provision of information and services by some Service Providers. These terms and conditions may, in some cases, include a disclaimer absolving the Service Provider from liability regarding information and services supplied on VIATEL. The means of accessing these terms and conditions is set out on the Service Provider's Index Page on VIATEL.

Should you require any changes to your existing telephone equipment (e.g. new exchange line, additional socket), please contact your local District Telecom Office.

In a small number of cases VIATEL reception may be unsatisfactory. Correction may incur an additional charge.

Bulletin Boards

Key To System Status

=====

Mem = Financial membership required for full access.
 Reg = Free membership requiring name, phone No. etc.
 VA = Visitor access to some/most functions.
 LVA = VERY limited visitor access.
 Public = Access free to anyone.

=====

NEW SOUTH WALES

System Name & Phone No.	Op Times & Status
ABCOM-IBBS0047 RIBM Phone: (074) 36 4165 Sysop: Ben Sharif	24 Hours Public
Andromeda Phone: (02) 746 3598	24 Hours Public
AUGUR BBS Phone: (02) 661 4739 Sysop: Mark James	24 Hours Reg/VA
AUSBOARD (OSBOURNE) RCPM Phone: (02) 439 7072 Sysop: Daniel Moran	24 Hours Public
BERT BBS Phone: (02) 211 0855	24 Hours [1200/75]
Bounty C-64 BBS Phone: (02) 918 3256	24 Hours Mem/VA
Bresike Omen Phone: (02) 457 8281 Sysop: Geoff Arthur	24 Hours Public
Club 80 (SYDTRUG) RTRS Phone: (02) 332 2494 Sysop: Michael Cooper	24 Hours Mem/VA
COMMBOARD Phone: (02) 664 2334 Sysop: Graham Lee	24 Hours Mem/VA
Contact RCPM Phone: (02) 550 1004 Sysop: Steven Williams	24 Hours Mem/VA
C S A C E (ATARI) Phone: (02) 529 8249 Sysop: Larry O'Keefe	24 Hours Reg/VA
Dick Smith RIBM Phone: (02) 887 2276	24 Hours Public
Frontier Systems RIBM Phone: (02) 875 2606 Sysop: John Stanton	24 Hours Public

Goblin Sound RMAC Balmain RCPM Phone: (02) 660 8182 Sysop: Ned Whitford	24 Hours Reg/LVA
Illawarra BBS Phone: (042) 84 4354 Sysop: John Simon	24 Hours Reg/VA
InfoCentre BBS Phone: (02) 344 9511 Sysop: Paris Radio	24 Hours Mem/VA
Prophet TBBS Phone: (02) 628 7030 Sysop: Larry Lewis	24 Hours Public
SYDNEY PC USERS RIBM Phone: (02) 238 9034 Phone: (02) 221 5520 Sysop: Geoff May	24 Hours V1 V2
TANDY AUSTRALIA RIBM Phone: (02) 625 8071	24 Hours Mem/VA
Tesseract RCPM+ Phone: (02) 651 1404 Sysop: John Hastwell-Batten	24 Hours CP/M & MS DOS Reg/VA
Zeta Remote TRS 80 System Phone: (02) 627 4177 Sysop: Nick Andrew	24 Hours Mem/LVA

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AUSTRALIAN CAPITAL TERRITORY

CANBERRA IBBS Phone: (062) 58 1406	24 Hours
CANBERRA RBBS Phone: (062) 88 8318;	24 Hours

=====

QUEENSLAND

ACEA COMMODORE BBS (ACEA-BBS) Phone: (07) 341 0285	24 Hours
Brisbane Experimental RCPM II (BEX2-RCPM) Phone: (07) 395 1809	24 Hours
Brisbane Microbee User Group GROUP RCPM (BMUG-RCPM) Phone: (07) 34 833	24 Hours
HI-TECH CBBS (HTC-BBS) Phone: (07) 38 6872	24 Hours
Tomorrow Land Direct (BRIS-TLD) Phone: (07) 394 2300	24 Hours

CLUB ROOM

=====

VICTORIA

AM-NET BBS (AMNET-BBS) 24 Hours
Phone: (03) 336 7055
Computers Galore BBS 24 Hours
Phone: (03) 561 8479

Down Under Software 24 Hours
Phone: (03) 429 4679

Gippsland RCPM 24 Hours
Phone: (051) 34 1563

HISOFT BBS 24 Hours
Phone: (03) 799 2001

HI-TECH BBS 24 Hours
Phone: (03) 397 1165

Mail Bus 24 Hours
Phone: (051) 27 7245

MELBOURNE MICRO 24 Hours
COMPUTER CLUB CBBS
Phone: (03) 762 5088

MICROPRO COMPUTERS RCPM 24 Hours
(MICROP-RCPM)
Phone: (03) 568 8180

MICROPRO COMPUTERS RCPM 24 Hours
(MICROP-RCPM)
Phone: (03) 568 8180

Millionaire BBS 24 Hours
Phone (03) 222 2939

OMEN IV RTRS 24 Hours
Phone: (03) 846 4034

Public Resources #1 BBS 24 Hours
Phone: (03)878 2918

SCORCERER COMPUTER 24 Hours
USER'S ASSOC. CBBS
Phone: (03) 434 3529

VIX 4000 Videotext Service 24 Hours
Phone: (03) 329 2936

=====

TASMANIA

Ian Campbell TBBS 24 Hours
Phone: (003) 26 4248

Launceston BBS 24 Hours
Phone: (003) 34 0911

MS-RBBS RTRS 24 Hours
Phone: (003) 34 0911
Sysop: Mike Scott

=====

SOUTH AUSTRALIA

Computer Ventures BBS 24 Hours
Phone: (08) 255 9146

Electronic Oracle IBBS 24 Hours
(EO-IBBS)
Phone: (08) 260 6686

Multiple BBS (MULTI-BBS) 24 Hours
Phone: (08) 255 5116

NEXUS Education Dept BBS 24 Hours
(NEXUS-BBS)
Phone: (08) 243 2477

=====

NORTHERN TERRITORY

Outback RCPM 24 Hours
Phone: (089) 27 7111

OMEN II RTRS 24 Hours
Phone: (089) 27 4454

RED CENTRE RCPM 24 Hours
(REDC-RCPM)
Phone: (075) 32 6340

=====

WESTERN AUSTRALIA

Applecross 24 Hours
Phone: (09) 364 9924

OMEN III RTRS 24 Hours
Phone: (09) 279 8555

=====

NEW ZEALAND: NORTH ISLAND

Attache RBBS 24 Hours
Phone: 64 9 76 2309+
Note: Type 'HELP' to log on.

=====

INTERNATIONAL

Some of the following are RING-BACK systems. You ring once and then hang up after the first ring. When you ring the second time, the computer will answer. If you let the phone ring more than twice on the first time, you will get voice contact with the Sysop.

Please Note: You Must dial the ISD prefix (eg. 00144 = UK) and then the STD number WITHOUT THE LEADING ZERO OF THE STD PREFIX. So Southern BBS would become 00144 243 511007.

=====

300/300 FULL DUPLEX BULLETIN BOARDS - UK

SOUTHERN BBSs 24 Hours
Phone: 0243 511007

COMPUTER ANSWERS MAGAZINE 24 Hours
Phone: 01 631 3076

BASUG (Ringback) 24 Hours
Phone: 0742 667983

MICRO USER (MICROWEB) 24 Hours
Phone: 061 456 4157

CBBS Surrey 24 Hours
Phone: 04862 25174

MAILBOX 80 LIVERPOOL 24 Hours
Phone: 051 428 8924

STOKE ITEC REMOTE CP/M 24 Hours
Phone: 0782 265070

Here's something worth a CLOSER LOOK!

IT'S BEEN one of those days! My disk drive and my tape recorder have broken down. To save myself from going mad I thought I might mess about with the CoCo's mathematical functions. I thought you would start with SIN. SIN is a function which relates to trigonometry (the properties of triangles). I knew that SIN(X) gives me many different values. Hmmm ... I thought, "What if I graphed the values on the graphics screen ...". I came up with the following program.

```
10 REM LINES 20-40 SET UP GRAPHICS
  SCREEN
  20 PMODE 4,1
  30 SCREEN 1,1
  40 PCLS
  50 REM WE NOW START A FOR/NEXT
  LOOP LETTING X BE OUR HORIZON
  TAL LOCATION AND Y OUR VRTICLE
  60 FOR X=1TO 256:REM WIDTH OF
  GRAPHICS SCREEN
  70 Y=INT(SIN(X))+100: REM TELLS
  COMPUTER THAT 'Y' IS AN INTEGER
  AND MOVES IT DOWN 100 PIXELS
  80 PSET(X,Y,5):REM PLOTS THE
  POINTS
  90 NEXT X
  100 GOTO100
```

Mmm ... an interesting effect; many small waves appear across the screen. These are known to mathematicians as SINE WAVES. They are caused by the values of SIN.

After further experimentation I changed LINE 70 to;

```
70 Y=INT(SIN(*10))+100
  and ran the program again.
```

Very interesting. We now have many small waves crammed up and what do you know, they are colored!

The colors that appear are called ARTIFICIAL colors and are caused on the CoCo when dots on the screen are close together. The result is a false or almost an illusion of color.

By changing Line 70 many different patterns could be made. For example:

```
70 Y=INT(SIN(X*10)*10)+100 caused a colored
diamond patten to appear and ...
```

```
70 Y=INT(SIN(X*8)*8)+100 caused a colored rope like
pattern to appear.
```

```
70 Y=INT(SIN(X*6)*6)+100 made buff waves appear
across the screen but these are quite large and
curved.
```

After finding nothing more that interesting me thought I could try another mathematical function. I moved the TAN command also used i trigonometry.

But there was a problem. Often 'Y' was negative. Hmmm ... I thought. Aha! Maybe I could use the ABS command. This command only gave the computer the absolute or positive value of a number.

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

This gives us more artifact colors plus an interesting pattern. After some let downs I tried:

```
70 Y=SIN(ABS(INT(TAN(X))))+100
```

This complicated equasion provides an amusing effect.

Gee, it's eleven already - I'll have to switch off! Remember, one of the best ways of learning about your computer is through experimentation.

Happy Programming



To get the most memory available for the extended color computer, try

```
POKE 25,6:NEW <enter>
```

But if you have a Disk System, you can get up to 29K of memory by typing:

```
FILES 1:POKE &HD00,0:POKE 25,13:NEW
```

Unpacking BASIC programs

If you have come across a program that has had its lines packed so tightly that parts of of the lines can't be seen when listed, here is a way to make them visible again in a 64K CoCo. First RUN a program to put the computer into the 64K mode ...

```
10 'ROMRAM
  20 CLEAR999
  30 DATA26,80,190,128,0,183,255,2
  22,166,128
  40 DATA183,255,223,167,31,140,22
  4,0,37,241,57
  50 FORI=1TO21:READA:A$=A$+CHR$(A
  ):NEXT I
  60 P=VARPTR(A$)+1
  70 POKE P,126
  80 EXEC P
  90 PRINT" BASIC IS NOW IN RAM"
```

.. and then enter POKE &HB816,4. This poke into the BASIC interpreter will allow the full line to be listed. This POKE will affect the LIST, LLIST and ASCII save functions, but will not affect the EDIT mode.

POINTER FOR DUNGEONS OF DAGGORATH

In the Dungeons of Daggorath, I find it handy to find a suitable corridor and dump everything I have in front of me bar the sword and torch.

The idea is: Whenever a creature comes for me, he has to pick up everything that is on the floor first before he can kill me. So while he's picking up my loot, I'm clobbering him senseless with my sword.

Another handy hint is to save your position BEFORE you go down to the next level.

Now I ask you lot out there for some help.

In the third level, with what do I destroy the imaginary wizard? I've done everything from clobbering him with swords & shields to zapping him with rings to running away! Help - please??

a glossary of co

This is a glossary of the terms that most people use when working with or discussing computers.

ACCESS - The method by which information is read from, or written to, a disk or a tape.

ADDRESS - A location in memory, usually specified by either a poke or an exec command (also usually hexadecimal).

ASCII - American Standard Code for Information Interchange. This is a code that assigns special bit-patterns to specific characters or letters.

BACKUP - Usually a spare copy of a program. Also a disk basic command.

BASIC - Beginners' All-purpose Symbolic Instruction Code. The programming language used by most home computers. It is worded very close to English. For the CoCo there is COLOR BASIC (CB), EXPANDED COLOR BASIC (ECB), DISK EXTENDED COLOR BASIC (DECB) and BASIC09.

BAUD RATE - This is the rate at which the computer sends or receives bits of information through the I/O port. An approximation of the number of bytes per second is the baud rate divided by ten.

BINARY - The number system using base two. That is only the digits 0 and 1 can be used.

BIT - A binary digit. That being, either 0 or 1.

BUG - An error in a program. Syntax or Illegal Function etc.

BUFFER - A part of memory that is set aside to take in and hold information at any speed and then let the information out at a certain rate.

BUS - A connection or interface.

BYTE - A set of 8 bits that can stand for a character or symbol. Capable of representing 256 different combinations. E.G. 10110011

CB - Color Basic. The standard language of the CoCo.

CHARACTER - A character or number or symbol that appears on the screen.

COLD START - This is enacted by turning the computer off and turning it on again. To begin from power off is to perform a cold start.

CRT - Cathode Ray Tube. A monitor or TV. The picture tube.


CPU - The Central Processing Unit. The "brain" of the computer where the "thinking" takes place. The CoCo1 & 2 use a 6809 processor whereas the CoCo3 uses a 68B09E processor.

DATA - Lines in a program that are set aside to be READ by the computer. DATA is a way of storing information in a program.

DEBUG - To remove the errors or BUGs from a program.

DEFAULT - Default has many uses. It can be used in some cases as a command that changes the BAUD RATE or to define which disk drive that you want to use.

DISKETTE - There are two basic types of disk. The floppy disk and the hard disk. The floppy disk is used on a personal or domestic scale and holds enough information for such uses. The hard disk is used in large situations where very large amounts of information have to be ACCESSED quickly.



**...no more
monkey
business**

Computer terms

by Maurice Phillips

DISK DRIVE - The device used to read from and write onto a disk. Again two types. Hard disk and floppy disk. Hard disk is used for progressive work. The floppy for incidental work.

DOS - Disk Operating System. These vary with different companies with different features. You can usually find one to meet personal needs. Some DOS's include OS-9, Rainbow Bits, Tandy DOS and many more.

DUMB TERMINAL - This is simply a remote screen used to display information. E.G. At airport or bus terminals.

DUPLEX - This is a method of communication between two terminals. Half DUPLEX is where the typed character is sent and is printed only on the receiver's screen. Full DUPLEX is when the character is sent, printed on the receiver's screen and then sent back and printed on the sender's screen. Full DUPLEX is the most widely used system today.

ECB - EXTENDED COLOR BASIC. The extended language for the CoCo. ECB gives access to hi-res graphics and some other commands such as EDIT.

ESCAPE CHARACTER - This tells the computer that the following data is of a different set to the previous set.

FILE - This is an organised set of related data.

FLEX - An advanced DOS used by 6809 CPU computers.

FORMAT - Used to organize the disk's magnetic medium into tracks and sectors.

GRANULE - A unit of storage space on a disk representing 2304 bytes of space.

HANDSHAKE - A communications interface preceding transmission of information. E.G. A printer is told to print. The printer acknowledges the request and signals to pass on the information. Transmission then commences.

HARD COPY - A printed copy of data or a file or listing etc.

HARDWARE - Physical parts of a computer setup. E.G. Computer, printer, modem etc.

HEX - Short for hexadecimal. Base 16. Uses 0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F. CoCo use of a HEX number is preceded by &H. E.G. &HE00

INPUT - Transferral of data into RAM using keyboard, tape, disk etc.

INTELLIGENT TERMINAL - The main terminal. The one that does the thinking.

I/O - An abbreviation of Input/Output.

LINE FEED - A printer command which moves the paper down a line.

LOAD (CLOAD) - Command enabling files or ASCII data to be read from a tape or disk. Load is for disk. Cload for tape (cload=cassete load).

LOADM (CLOADM) - The same as load and cload except this command is for MACHINE LANGUAGE programs.

MACHINE LANGUAGE - A language that lets you access ROM usually HEX ADDRESSES.

MAINFRAME - Large Computer that can store millions of record in memory.

MICRO COMPUTER - A term used to describe computers such as the CoCo.

MODEM - Converts electrical impulses into audio signals and back again. Can be used over long distances using phone lines. Lets computers communicate.

OS-9 - An advanced DOS for 6809 CPU computers.

PARAMETER - A variable is given a value. This value is used to control certain factors of a program. This value is a parameter.

PARITY BIT - Calculates the value of a certain byte and determines odd or even. Sometimes used for error trapping in modems.

PERIPHERAL - Any device that can be used under the control of the computer. E.G. tape recorder, disk drive, printer etc.

PORT - Socket on the computer used for certain jobs. E.G. joystick port, I/O port etc.

PROMPT - A signal made by the computer telling the user that the computer is ready to accept the next command.

RAM - Random Access Memory. This is the memory set aside for the operator to use for programming or data analysis. RAM is usually measured in K or KiloBYTES. E.G. 4K,16K,32K,64K,128K,512K etc.

ROM - Read Only Memory. The memory set aside for the computer to gain information on how to run itself. This is where all the computer's internal commands are stored. It cannot be rewritten as can RAM.

RS 232 - The SERIAL port used by the CoCo.

SECTOR - One eighteenth of a TRACK on a DISK containing 256 BYTES of storage.

SERIAL - A form of transmission. One BIT after another. One BIT is sent and used before the next is sent.

SIMPLEX - Name for half DUPLEX.

SMART TERMINAL - A terminal capable of displaying and accepting data but cannot run without the main terminal.

SOFTWARE - Programs or other data that is used by the computer.

STOP BIT - Indicates the end of a SERIAL transmission.

TRACK - 18 SECTORS forming concentric circles on the disk medium. There are main forms of disk. 35 track, 40 track or 80 track.

UTILITY - A program that serves a specific purpose in conjunction with the computer's running. E.G. A self check program for the computer is a UTILITY.

WORD PROCESSOR - Lets you type files and edit them before printing and usually let you save the file. This glossary was done with a word processor called Telewriter 64.

WORD WRAP - A feature of good word processors is that you set the number of characters per line and if, near the end of a line, a word goes over this mark, the computer will take the word and put it at the start of the next line.

WRITE PROTECT - You do this to prevent your disk from being overwritten by covering the write protect notch with tape or a w.p. tab. The notch serves the same purpose as the tab in the top of a cassette.

PEEKs POKEs & EXECs

Printer Pokes

POKE149,4:POKE150,88	50 baud
POKE149,2:POKE150,227	75 baud
POKE149,1:POKE150,246	110 baud
POKE149,1:POKE150,110	150 baud
POKE149,0:POKE150,180	300 baud
POKE149,0:POKE150,87	600 baud
POKE149,0:POKE150,41	1200 baud
POKE149,0:POKE150,25	1800 baud
POKE149,0:POKE150,23	2000 baud
POKE149,0:POKE150,18	2400 baud
POKE149,0:POKE150,10	3600 baud
POKE149,0:POKE150,7	4800 baud
POKE149,0:POKE150,3	7200 baud
POKE149,0:POKE150,1	9600 baud

PEEK(65314)
= odd, printer offline,
= even, printer online
POKE360,162:POKE361,191
All text output to printer
POKE360,115
Restore the above in ECB
POKE360,203:POKE361,74
Restore the above in DECB

For those whose screen dump only prints halfwidth
just put printer into elongation mode for DMP110
send: CHR\$(27); CHR\$(14). To end elongation send:
CHR\$(27); CHR\$(15)

Disk Pokes

POKE111,254:DIR
Directory to printer
POKE25,14:POKE26,1:POKE3584,0:NEW
No graphics, lots of memory.
POKE25,20:POKE26,1:POKE5120,0:NEW
Same as PCLEAR1
POKE25,26:POKE26,1:POKE6656,0:NEW
Same as PCLEAR2
POKE25,32:POKE26,1:POKE8192,0:NEW
Same as PCLEAR3

POKE25,38:POKE26,1:POKE9728,0:NEW
Same as PCLEAR4
POKE2439,255
Verify on
POKE2439,0
Verify off
POKE65344,0
Turns off drive motors
POKE298,0:POKE303,0
Turns off Disk BASIC commands
POKE298,25:POKE303,14
Restores the above
POKE111,254:DIR
Hard copy of Directory
PEEK(235)
Returns drive number
PEEK(236)
Returns track number
PEEK(237)
Returns sector number
PEEK(2439)
= 0 if Verify on
= 255 if verify off
PEEK(49152)
68 = If Disk System present
EXEC49364
Warmstart DECB 1.0
EXEC49383
Warmstart DECB 1.1
EXEC52175
Same as DIR in DECB 1.0
EXEC52393
Same as DIR in DECB 1.1

Speed Pokes

POKE359,60
Slow poke for ECB
POKE359,60:POKE361,37
Slow poke for DECB
POKE359,19:POKE360,19:POKE361,57
Even slower poke
POKE65495,0
Double speed
POKE65494,0
Normal speed
POKE65497,0
Triple speed (loss of screen)
POKE65496,0
Returns to normal

Cold Start

POKE113,0:EXEC40999
Performs a cold start
EXEC113 (Press RESET)
Does the above

Different Screens

POKE359,57
Orange screen (type SCREEN0,1)
POKE359,126
Restores the above
POKE359,74:POKE360,57
Changes ASCII of everything on screen
POKE179,n
Get more colors in hi-res. (n = 1 to 2)

Character Pokes

POKE282,255
Uppercase mode
POKE282,0
Lowercase mode
PEEK(282)
= 0 Lowercase,
= 255 Uppercase

Protection Pokes

List Disable:
POKE383,57
LIST protect
POKE383,126
Disable protect

Break Disable:
POKE248,50:POKE249,98:POKE250,28:POKE251,175:
POKE252,126:POKE253,173:POKE254,165:POKE410,126:
POKE411,0:POKE412,248

Reset Disable:
CLEAR200,31000:FORX=32742TO32767:READ 1:POKEX,1:
NEXT:EXEC32762:DATA58,142,58,18,16,222,33,48,140,
246,159,166,28,175,127,255,64,126,173,192,48,140,
236,159,114,57

Machine Language Addresses

How to find the Start, End, and Exec address of an ML program after loading it FROM TAPE:
Start address: PRINT PEEK(487)*256+PEEK(488)
End address: PRINT PEEK(126)*256+PEEK(127)-1
Exec address: PRINT PEEK(157)*256+PEEK(158)
Then save the program like this:
(C)SAVEM"FILENAME",Start add,End add,Exec add

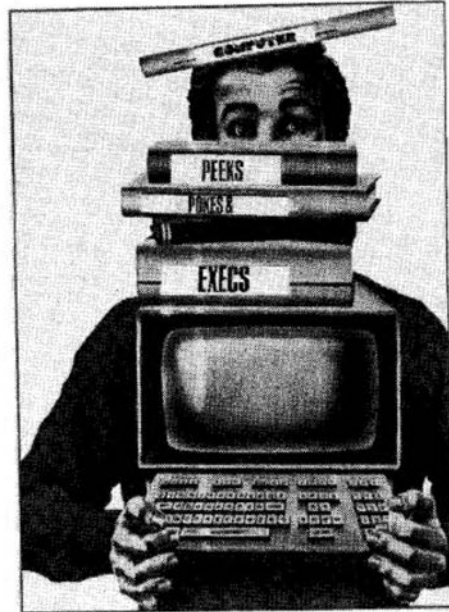
Loading ML into a different place in memory: To move up in memory, take off the old address from the new address. To move down in memory, take off the old address from the new address and add 65536.

Merging two BASIC programs from tape:
1) RENUMBER both programs so they don't overlap each other.
2) CLOAD the lower number program.
3) POKE25,PEEK(27):POKE26,PEEK(28)-2
4) CLOAD the second program.
5) POKE25,30:POKE26,1

PEEK(116)*256+PEEK(117)
Returns size of your system
PEEK(274)*256+PEEK(275)
Returns TIMER value PRINT
PEEK(49)*256+PEEK(50)
Returns last DATA line number
PRINT PEEK(207)*256+PEEK(208)
Returns last radius of circle in PMODE 4

Various INKEYS

EXEC44539
Same as: 10 A\$=INKEY\$:IF A\$=""THEN10
EXEC41393
INKEY\$ with Cursor
POKE383,126:POKE384,161:POKE385,177
LISTS one line at a time.



Tape Help

POKE143,8:POKE144,24:POKE145,4
Read tape in when CoCo at normal speed.
POKE143,13:POKE144,24:POKE145,6
Read tape in when CoCo at high speed.
PEEK(129)
After an I/O error:
1 = Bad Tape,
2 = Out of memory

Various Other Trivia

POKE280,PEEK(275)
Complete Random
EXEC34471
Same as TRON
EXEC34472
Same as TROFF

General Information

Joysticks: side = on/off
Both = 124/252
Left = 125/253
Right = 126/254
Neither = 127/255
Pmodes: type = value
4,1 = 248-255 4,0 = 240-247
3,1 = 232-239 3,0 = 224-231
2,1 = 216-223 2,0 = 208-215
1,1 = 136-143 1,0 = 128-135
DIM Statements & GET/PUT:
Dimensioning DIM A(?)
A = (x2-x1)*(y2-y1)/n
n = 37: PMODE 3 & 4;
n = 76: PMODE 1 & 2;
n = 150: PMODE 0

Extra Memory

POKE25,14:POKE26,1:POKE3584,0:NEW
PCLEAR 0 for disk
POKE25,6:NEW
PCLEAR 0 for tape
POKE25,6:POKE31,6
PCLEAR 0 without erasing your program

Some Basic Techniques

by John Berger

1. TRUNCATION AND ROUNDING

There are two functions used in the COCO that convert numbers which have decimal parts (floating point numbers) into whole numbers (integers). These are INT and FIX. These are best demonstrated by an example. Try this:

```
10 INPUT I
20 PRINT INT(I);FIX(I);INT(-I);FIX(-I)
30 GOTO10
```

Try these numbers: 4.1, 4.4, 4.5, 4.6 and 4.9. As you can see when you try this, INT takes the nearest whole number less than or equal to the number input.

However, FIX just chops off the numbers to the right of the decimal point. Neither ROUND correctly (less than .5 goes down, .5 and above goes up). Add this line and RUN the program again: 15 I = I + .5 Well, which one rounds correctly? The answer is at the end of the article. 2. VARIABLES AND CONSTANTS

In any command such as CIRCLE you can swap a variable for a constant. Eg. CIRCLE(20,30),5 can be substituted by X = 127 : Y = 95 : R = 50 : CIRCLE(X,Y)R. You can draw circles all over the screen by setting different values for X, Y and R and calling the CIRCLE command in a subroutine. 3. DYNAMIC DEVICE ALLOCATION

In the PRINT#(DEVICE), command you can use different values for the device. So, if you are writing a program that writes and reads tape or disc, you can test it by redirecting the output to the screen and taking your input from the keyboard. You could test output to a printer by first printing to the screen. Use something like this: PRINT#DV, "test" and INPUT#DV, I\$.

You can LET DV = 0 for keyboard input and screen output, -2 for printer or modem output, -1 for tape input and output, and +1 to +15 for disc input and output. 4. PRINT USING

You can embed PRINT USING type formats within a string. Try these:

```
A = 123.4567
B = 765.3421
PRINT USING"####.###";A
PRINT USING"#####.#";A
PRINT USING"$s#####.##,E
PRINT USING"I HAVE $####.## IN MY ACCOUNT";
PRINT USING"AND I OWE $$$.#";87.56
PRINT USING"###.###";A;B
```

Did you notice that PRINT USING did your rounding on output? You can also use PRINT USING when writing to tape or disc. 5. SWITCHES AND FLAGS

In the machine, if a condition is TRUE its value is -1 and if it is FALSE it is 0. To switch from TRUE to FALSE and back you can use SW = ABS(SW) -1.

You can also test using this IF SW THEN ... or IF NOT SW THEN ... In fact you can be even more



cunning by performing a calculation rather than a test. Try these: A = 9 : PRINT A<0 : PRINT A>0 or IF A THEN PRINT A (this prints A if A is non zero). What about this? A = PEEK(65280)=126 : PRINT A. This sets up A to be TRUE (-1) if location 65280 contains 126 and false (0) if it does not. You can even string together a series of tests and come up with an arithmetic expression. It is faster than a series of separate tests. For example:

```
If A is between 100 and 200 then B is 1,
If A is between 201 and 300 then B is 2,
If A is greater than 300 then B is 3,
Otherwise it is 0.
```

```
B = -(A>99) + (A>200) + (A>300)
```

This could be embedded within a Function call:

```
DEFNBB(A) = -(A>99) - (A>200) - (A>300) Then use:
```

```
INPUT X
B = FNBB(X)
PRINT B
```

6. MID\$

MID\$ Has two forms in COLOR BASIC and another particularly useful form in EXTENDED COLOR BASIC.

```
X$ = "ABCDEFGF"
Y$ = MID$(X$,2,3) : PRINT Y$ gives BCD
Y$ = MID$(X$,3) : PRINT Y$ gives CDEFG
```

In EXTENDED COLOR BASIC you also can do this: MID\$(X\$,3,2) = "12" : PRINT X\$ This gives AB12EFG.

To recap, the first form extracts three characters starting at the second. The next form extracts all characters to the right of and including the third. The last form replaces two characters within the string starting at the third. This is particularly useful in avoiding that frustrating delay (when the machine seems to just freeze up), that occurs when it runs out of string space and shuffles up all the strings to make more space (this is called garbage collection). The MID\$ function on the left hand side of an expression does not use any new string space! P.S. Does anyone know an EXEC or USR address to force garbage collection under programmer control?

7. PRINTING NUMBERS AS STRINGS

Try this:

```
10 READ A$
20 PRINT A$
```

```

30 READ B
40 PRINT B$
50 READ A
60 PRINT A
60 PRINT -A
70 DATA 123,-123,456,-456

```

Note how a space is left in front of a number in case a - sign has to be printed.

8. DATA STATEMENTS

Large numbers can be READ in via DATA statements using the E format. DATA 1E6,2E6,... instead of DATA 100000,200000,... If you wish to READ or INPUT string data that contains a comma (,) or a colon (:) then put quotes around the string. To handle quotes (") do not put quotes around the string. This is OK provided you do not wish to use both a quote and either comma or colon in the same string. Then it takes some effort. You can use an apostrophe (') if the quote is not really necessary. If it is then you can use CHR\$(34), use a symbol such as @ and substitute or break up the input either manually or with INKEY\$. EXTENDED COLOR BASIC LINEINPUT or one of the standard substitute subroutines will also solve this problem for INPUT but I am not aware of an easy solution for DATA.

9. RANDOM NUMBERS

You probably know that the so called random numbers generated in the COCO are not really random. They are pseudo-random numbers. Usually the software takes a "seed" and generates a series of numbers in such a way as to make them appear to be random. This is a two-edged sword. If you are testing then it helps to be able to reproduce the same sequence of pseudo-random numbers over and over again until you are sure that your program works. At other times (for instance in a game) you might like to make sure that not only do events occur in a haphazard way but that the start varies too. With the COCO you can do both. If you use the same number each time then RND(-number) will generate the same sequence of pseudo-random numbers. To change the sequence use a different number. For a completely random seed use RND(-TIMER).

10. SPACES

The only time you need to put a space between a variable and a BASIC keyword is if a numeric variable (such as X or FLAG) precedes a keyword. 40IFX>YGOTO10 does not do the same as 40IFX>Y GOTO10.

11. FAST KEYBOARD INPUT

RUN this and then press a few keys: 10?PEEK(135):GOTO10 What are you looking at? HINT (Try CHR\$(PEEK(135))).

The answer to the question in the first paragraph... use FIX(1+.5).

DIR +

by D. W. Thurbon

16K DECB UTILITY

Dir+ is a directory assistance program for disc users. When run it will print to screen or printer as required.

The Listing:

```

0 GOTO20
3 SAVE"DIR+3":END
10 ' DIR+ WRITTEN BY D.W.THURBON.
    COPYRIGHT BY PIXEL SOFTWARE
    10 DECEMBER 1985.
20 CLEAR1000
30 POKE150,40:CLS3:' PRINTER BAU
D RATE POKE.
40 PRINT@32," (1) SCREEN"," (2)
PRINTER":PRINT@64,STRING$(32,175
);
50 A$=INKEY$:IF A$="" THEN50
60 IFVAL(A$)=1THENDV=0ELSEIFVAL(
A$)=2THENDV=-2:PRINT@96,,:LINEIN
PUT" DISK NAME ";Q$ ELSE50
70 IFDV=-2THENPRINT#-2,Q$
80 PRINT#DV,"NAME EXT STR
T END EXEC":PRINT#DV

```

```

90 FORSC=3TO11
100 P=1
110 DSK1$0,17,SC,A$,B$
120 B$=LEFT$(B$,127)
130 D$=A$+B$
140 FORX=1TO8
150 IFASC(MID$(D$,P,1))=255THEN2
40ELSEIFASC(MID$(D$,P,1))=0THENP
=P+32:GOTO220ELSEPRINT#DV,MID$(D
$,P,8)+" ";:P=P+8:PRINT#DV,MID$
(D$,P,3)+" ";
160 P=P+3:IFASC(MID$(D$,P,1))<>2
THENPRINT#DV," NOT BINARY":P=P+
21:GOTO220
170 P=P-11:F$=MID$(D$,P,8)+"."+M
ID$(D$,P+8,3)
180 GOSUB300
190 PRINT#DV,X$

```

```

200 P=P+32:GOTO220
210 PRINT#DV
220 NEXTX
230 NEXTSC
240 PRINT@482,"'E' TO END. ANY K
EY FOR NEXT";
250 ZZ$=INKEY$:IFZZ$="" THEN250
260 IF ZZ$="E" THEN 280
270 GOTO30
280 POKE113,0:EXEC40999
290 END
300 OPEN"D",1,F$,1:FIELD #1,1 AS
A$:R=1:GOSUB390:IFC<>0THEN410
310 GOSUB390:L=C*256:GOSUB390:L=
L+C
320 GOSUB390:S=C*256:GOSUB390:S=
S+C:Y=L+S-1
330 X$=RIGHT$("00"+HEX$(S),4)
340 X$=X$+" "+RIGHT$("00"+HEX$(
Y),4)
350 R=R+L:GOSUB390
360 GOSUB390:Q=C:GOSUB390:IFC<>0
OR Q<>0 THEN410
370 GOSUB390:L=C*256:GOSUB390:L=
C+L
380 X$=X$+" "+RIGHT$("00"+HEX$(L
),4):CLOSE1:RETURN
390 IFR>LOF(1) THEN C=1:RETURN
400 GET#1,R:C=ASC(A$):R=R+1:RETU
RN
410 RETURN

```

☺☺☺

ERROR MESSAGES

The following error messages have a certain format:

[Message] [Error Number] - [Error Name] [(System)]
Description

[(System)] - 3 = CoCo 3 Error
D = Disk Error
E = Extended Basic Error
C = Color Basic

/0 10 - "Divide by Zero" (C)

You can't divide anything by zero.

AE 33 - "Already Exists" (D)

When you COPY a file from one disk to another, it may be that that particular filename already exists on your destination disk.

AO 18 - "file Already Open". (D)(C)

This happens when creating a data file. For example, when you say, OPEN "I", #1, "filename" on one line and later on have the same line again, you'll get this error.

BR 27 - "Bad Record". (D)

You have used an impossible record number in your GET or PUT line. Either it is too low (less than one) or too high (higher than the maximum number of records the Computer can fit on the disk). Use a different record number in the PUT or GET line, or assign a smaller record length in the OPEN line.

BS 8 - "Bad Subscript". (C)

In BASIC, you can have up to 10 arrays, ie A\$(10). Anymore and you need to DIM your array. For example, if you have 20 items to read, you need to DIM A\$(20) otherwise you'll get an error.

CN 16 - "Can't continue". (C)

You have to re-RUN your program.

DD 9 - "Double-Dimensioned array" (C)

When you DIM A\$(20) in line 20 and DIM A\$(20) again in line 40. (Line numbers are an example.)

DN 19 - "Drive / Device Number error". (D)(C)

If you were in the command mode (the mode you're in when you tell the computer to do something, like RUN or NEW) and you were, say, trying to DSKINI or DIR or BACKUP a drive higher than 3 or less than 0 will you get this error.

If you were in the programming mode, it is possible you are using more files than you have specified earlier in the program, for example: when you FILES 2,200 and you type in OPEN "I", #3, "filename", you need to FILES 3,200.

DS 24 - "Direct Statement" (C)

This error you can only get when you load an ASCII file that isn't a BASIC program (ie you didn't (C)SAVE "filename", A).

DF 28 - "Disk Full" (D)

Your program is too long to fit on the disk or

there isn't anymore free room on your disk.

ER 37 - "Write / Input past end of file" (D)(C)

You are trying to PUT more data in the record than it can hold or INPUT more data than it contains.

FC 4 - "illegal Function Call" (E)(C)

You are doing something that is out of the computers ability to do. For example, a PMODE 4 screen has a range 256 x 192. If you PSET(260,100) you will get an FC error. If the length of A\$ is 10 and you try to get MID\$(A\$,13,5) you will get this error also.

FD 17 - "bad File Data" (D)(C)

When you try to PRINT something to an OPEN "O", #1, "filename" or INPUT a variable when really it's a string.

FM 21 - "bad File Mode" (D)(C)

When you something other than an "I", "O" or "D" in an OPEN "I", #1, "filename".

FN 31 - "bad FileName" (D)(C)

The name you chose to save your file with is inappropriate (usually the name you gave your filename was longer than eight characters.)

FO 34 - "Field Overflow" (D)

The FIELD length is longer than the record length. Add the various lengths of your FIELDS together and place this figure at the end of the OPEN statement.

FS 32 - "bad File Structure" (D)

Either one of the files you saved has gone bad or the whole disk is ka-put. To avoid this happening to you, BACKUP your disks regularly.

HP 39 - "Hi-res Print error" (3)

Printing a hi-res message on a low-res screen = no no!

HR 38 - "Hi-Res graphix error" (3)

Set up the hi-res screen first, eg HSCREEN 2.

ID 11 - "Illegal Direct" (C)

If you were using an INPUT statement, you can't use it on the command level, only in a BASIC program.

IE 23 - "Input past End of file" (D)(C)

You are INPUTting more data than the datafile can hold.

IO 20 "Input/Output error" (D)(C)

For disk: either the door of your drive isn't shut properly or the disk isn't formatted / formatted properly or there isn't a disk in the drive or something else we don't know about.

For tape: Program was corrupted when you saved it or you kept the tape near a magnetic field and as a result the program is now corrupted or the power supply isn't connected. As a result you should keep your recorder away from any magnetic fields.

LS 14 - "Long String error" (C) continued on page 33

COLOUR COMPUTER MEMORY MAP

Memory: Whats what:

OVERVIEW

0000-03FF RAM used by BASIC interpreter
0400-05FF Video Display (may be moved)
0600-0FFF RAM for user memory
1000-3FFF Additional RAM for 16K users
4000-7FFF Additional RAM for 32K users
8000-9FFF Extended Basic ROM
A000-BFFF Basic interpreter ROM
C000-FFFF Cartridge ROM
FF00-FFFF I/O and control

EXTENDED OVERVIEW

Dept. 1: 0000-03FF: Ram used by BASIC interpreter

0003 General Counter
0006 String Flag
0007 Flag if garbage collected
0019 Start of User RAM
0019-001A BASIC program begin
001B-001C Pointer: top of program/begin variables
001D-001E Pointer: top of variables/arrays start
001F-0020 Pointer: end of arrays/start of memory.
0021-0022 Top of stack/start of string pool
0023-0024 Start of used area of string pool
0025-0026 Pointer: BASIC memory limit
0027-0028 End of string pool/Start of User space
0033-0034 Pointer: current data read position
0037-0038 Current variable name
0041 4 bytes used by tokenise
0041-0048 Start & end address of block move
0041 Highest add. to move to
0043 Highest add. to move
0045 Lowest add. moved to
0047 Lowest add. to move
004B Address of descriptor of highest string found
004F-0054 Floating point accumulator #1 (6 bytes)
0056 String length
005C-0061 Floating point accumulator #2 (6 bytes)
0062 Sign comparison
0063 Extended precision byte
0068-0069 Current program line
006C Current column position
006F Device number for output character;
0: Screen
1-10: Disk BASIC file #
\$FE: Printer
\$FF: Tape
0070 EOF on tape file flag
0071 Reset flag; \$55 for warmstart
0072-0073 Reset pointer (contains \$80C0 BASIC warmstart)
0074-0075 Pointer: end of memory
0078 File mode;
0: None, 1=input, 2=output
0079 Tape working buffer length
007A-007B Tape working buffer pointer
007C Tape file block type;
1: data, \$FF: EOF
007D No. of data bytes in cassette I/O block
007E-007F Program end address 1 after a CLOADM

0080 Checksum
0081 Cassette error no.
0082 General counter
0083 Pulse width count
0084 Rise/Fall flag
0085 Last sine value
0087 Last key entered
0088-0089 Pointer: current cursor position
008A-008B Serial read no. of tries
008C Sound frequency
008D-008E Duration of sound
008F Start of area downloaded from ROM
0092 Controls length of unmodulated carrier preceding cassette I/O
0094 Cursor Color
0095-0096 High and low bytes of baud rate code (usually \$0057)
0097-0098 Carriage return delay (usually \$0001)
0099 Comma field width (usually \$10)
009A Last comma field (usually \$70)
009B Printer line width (usually \$84)
009C Affects positions of vars. line-printed in comma fields (\$00)
009D-009E Transfer address after CLOADM
009F Start of get next character subroutine
00A5 Start of get same character subroutine
00A6 Next character pointer
00A8-00AA Jump vector to print "OK"
00AB-00AE Extended product area
00AF Trace flag
00B5 Current color
00B6 Current PMODE
00B7-00B8 End of screen
00B9 Number of bytes per line
00BA-00BB Address of graphics page
00BC \$E: Disk system, \$6: No disk
00BD X1
00BF Y1
00C1 Color set 1: (= 8)
00C3 X2
00C5 Y2
00D7 Temp
00DE Change flag
00E6 DLOAD baud rate
00E7 Input timeout constant
00EA Operation code
00EB Drive number
00EC Track
00ED Sector
00EE Buffer address
00F0 Status returned
0100-0102 Software interrupt 3 called by vector at \$FFF2
0103-0104 Software interrupt 2 called by vector at \$FFF4
0105-0108 Software interrupt 1 called by vector at \$FFFA
0109-010B Non-maskable interrupt called by vector at \$FFFC set to \$D7AE by disk
010C-010E Interrupt request called by vector at \$FFFB set to \$A9B3/Set to \$894C by extended/Set to \$D7BC by disk
010F-0111 Fast interrupt vector called by vector at \$FFF6/Set to \$A0F6
0112-0113 High and low bytes of TIMER
0116-0117 Seed for RND function
011A Shift lock flag
011C Keyboard delay constant

CLUB ROOM

011D-011F	Jump vector to \$8489 - print "OK"	01DA-02D8	Cassette buffer
0120-013C	Token table directory; Byte 1 = no. of keywords Byte 2&3 = Address of table Byte 4&5 = Address of subroutine	01DA-01E1	CLOADM file name
0120-0124	BASIC commands	01E5-01E6	EXEC address from tape
0125-0129	BASIC functions	01E7-01E8	Load address from tape
012A-012E	Extended BASIC commands	02DC	Contains token for first keyword in BASIC statement
012F-0133	Extended BASIC functions	02DD-03DC	Console I/O buffer
0134-0138	Disk BASIC commands	*****	*****
0139-013C	Disk BASIC functions	Dept. 2: 0400-05FF: Video display	*****
013E-013F	Address for USR0	0400-05FF	Lo-res screen
0140-0141	Address for USR1	*****	*****
0142-0143	Address for USR2	Dept. 3: 0600-7FFF: RAM for user program	*****
0144-0145	Address for USR3	0600-35FF	Possible graphics screen
0146-0147	Address for USR4	0600	Bottom of program area/No disk
0148-0149	Address for USR5	0600-06FF	Disk buffer
014A-014B	Address for USR6	0700-07FF	Disk buffer II
014C-014D	Address for USR7	0800-0927	Drive table
014E-014F	Address for USR8	097E	Table of current tracks
0150-0151	Address for USR9	0982	NMI in use flag
0152-0159	Keyboard rollover table	0983	NMI JMP
015A-015D	Joystick readings	0985	Motor shutoff counter
015A	Left joystick up/down	0986	Current latch data
015B	Left joystick left/right	0C00	Program start/disk system
015C	Right joystick up/down	0FFF	Top of memory for 4K
015D	Right joystick left/right	3FFF	Top of memory for 16K
015E-0160	Open device hook called at \$A5F6/Set to \$C426 by disk	7FFF	Top of memory for 32K
0161-0163	Device number check called at \$a5B9/Set to \$C838 by disk	*****	*****
0164-0166	Return device parameters called at \$A35F/Set to \$C843 by disk	Dept 4: 8000-9FFF: Extended BASIC ROM	*****
0167-0169	Character output called at \$A282/Set to \$8273 by extended/Set to \$CB4A by disk	8000-9FFF	Extended BASIC ROM
016A-016C	Character input called at \$A176/Set to \$BCF1 by extended/Set to \$C58F by disk	807F	Cold start to BASIC without six@ze search and workspace initialization. Resets pointers to start of BASIC program
016D-016F	Check file OPEN for input called at \$A3ED/Set to \$C818 by disk	80C0	Warmstart to BASIC. Does not reset pointers to start of BASIC prog.
0173-0175	Close all open files called at \$A426/Set to \$CA3B by disk	8183-81EF	Extended command token table
0176-0178	Close one file called at \$A42D/Set to \$8286 by extended/Set to \$CA4B by disk	81F0-821D	Subroutine entry addresses
0179-017B	Print using called at \$B918/Set to \$8E90 by extended	821E-8256	Extended function token table
017C-017E	File itme scanner called at \$B061/Set to \$CC5B by disk	8257-8272	Subroutine entry addresses
017F-0181	Break key check called at \$A549/Set to \$C859 by disk	82B9	Break or stop routine
0182-0184	Get line from keyboard called at \$A390/Set to JMP RTS by disk	82BB	Extended interpret loop
0185-0187	Finish loading ASCII file called at \$A4BF/Set to \$CA36 by disk	8378	COSine
0188-018A	Check end of file called at \$A5CE/Set to \$C860 by disk	8381	TANgent
018B-018D	Evaluate operan d called at \$b223/Set to \$8846 be extended/Set to \$CDF6 by disk	83B0	ArcTanGent
018E-0190	User error called at \$AC46/Set to JMP RTS by disk	8446	LOG
0191-0193	Error called at \$AC49/Set to \$88F0 by extended/Set to \$C24D by disk	8480	SQure Root
0194-0196	Run called at \$AE75/Set to \$829C by extended/Set to \$C990 by disk	84F2	EXPNential
0197-0199	Hex & octal called at \$BD22/Set to \$87E5 by extended	8524	FIX
019A-019C	Execute line called at \$AD9E/Set to \$82B9 by extended	8533	EDIT
019D-019F	Graphic address called at \$A8C4	86A7	TRace ON
01A0-01A2	CLS, GET, PUT, etc called at \$A910,\$975C,\$8AFA,\$8162 Set to \$C29A by disk	868A	TRace OFF
01A3-01A5	Tokenized called at \$B821/Set to \$8304 by extended	86AC	POSition
8000-9FFF	Extended BASIC ROM	86BE	VARIable PoinTeR
01D1	Tape file length	874E	STRING\$
01D2-01D9	Tape file name	877E	INSTRing
		8871	DEFine
		8968	TIMER
		8970	DELeTe
		8A09	RENUMber
		8BDD	HEX\$
		8C18	DownLOAD
		8DBC	Input serial character
		8E06	Output serial character
		928F	Find byte/bit routine
		92A6	Byte/bit; PMODES0,2,4
		92C2	Byte/bit; PMODES 1,3
		92DD	Bit tables
		9339	PPOINT
		9361	PSET
		9365	PRESET

93BB LINE
 9444 Draw horizontal line
 946C Draw verticle line
 9481 Draw line
 94E2 The draw line loop
 9506 Move up, down, left, right routines
 9532 PCLS
 9546 COLOR
 9621 PMODE
 9670 PCLEAR
 9710 Compare two points
 9723 PCOPY
 9755 GET
 9758 PUT
 98EC PAINT
 9A22 FLAY
 9CB6 DRAW
 9E9D CIRCLE

 Dept 5: A000-BFFF: BASIC interpreter ROM

 A000-BFFF BASIC ROM
 A000-A001 Address of check keyboard
 A002-A003 Address of character out
 A004-A005 Address of cassette read on
 A006-A007 Address of block in
 A008-A00B Address of joystick in
 A00C-A00D Address of header out
 A00E Secondary reset
 A027 Primary reset
 A06E Hardstart (after reset)
 A0A6 Check for disk ROM
 A0CB Check for extended ROM
 A0D7 Print version
 A0E8 Softstart (after reset)
 A0F6 IRQ entry (ROMpak check)
 A01D Start of area downloaded to RAM at \$8F
 A129 Start of area downloaded to RAM at \$10C
 A171 Input character, bit 7 clear
 A176 Input character
 A199 Blink cursor routine
 A1B1 Wait for keypress and read keyboard;
 char. returned in A register
 A1C1 Check keyboard and get key if pressed;
 Z=1, A=0 if no key pressed, or
 Z=0, A=key, B and X preserved
 A26E Table of codes for non-alpha keys
 A282 Output character to device specified by
 \$6F, all but CC preserved
 A2BF Output character in A to printer (RS232)
 A30A Output character in A to screen
 A390 Input line from keyboard into buffer ar
 \$02DD; return X\$02DC; zero byte at end
 of buffer
 A416 CLOSE
 A44C CSAVE
 A46C Perform CSAVEM function; requires start
 of memory block in \$19-A0 and in
 \$01E7-8, transfer address in \$01E5-6,
 and file name in \$01D2-9.
 Enter with A=2 and X=0
 A498 CLOAD
 A4FE CLOADM
 A53E EXEC
 A564 INKEY\$
 A59A Transfer block
 A5CE EOF
 A5EC SKIPF
 A5F6 OPEN
 A629 Open tape file
 A681 Find filename
 A6FE Blink screen corner
 A701 READ a block from tape
 A07B Read a block from cassette; must be On
 and in bit sync.

\$7C contains file block type:
 0= file header, 1= data, \$FF= EOF
 \$7D contains number of data bytes in
 file:
 Z=1, A=0 if no errors,
 Z=0, A=1 if checksum error,
 Z=0, A=2 if memory error
 X= buffer start block length if no
 error
 X points to beyond bad address if
 error
 U and Y are preserved
 A77C Start cassette and get bit sync for
 reading. U and Y preserved, FIRQ and
 IRQ masked
 A7BD MOTOR
 A7D8 Turn cassette on and write leader
 A7E5 Write tape file
 A7E9 Turn motor off
 A7F4 Write block to cassette; Tape to
 speed and leader written;
 \$7E= buffer address,
 \$7C= block type
 \$7D= Number of data bytes
 X= buffer address data bytes
 All registers modified
 A85C Sine table for cassette out
 A880 SET
 A8B1 RESET
 A8F5 POINT
 A910 CLS
 A928 Clear screen and home cursor
 A937 Print copyright (CLS9=>255)
 A94B SOUND
 A956 Generate sound
 A992 AUDIO
 A9B3 Interrupt processor (60Hz counter)
 A9C6 JOYSTICK
 A9DE Read and store joystick values;
 \$15A= Left joystick up/down
 \$15B Left joystick left/right
 \$15C Right joystick up/down
 \$15D Right joystick left/right
 Y is preserved
 AA29 Function address table
 AA51 Operation table for +,-,*,/, ,AND,OR
 (3 bytes each-addresses and precedence
 values)
 AA66 Command name table
 AB1A Function name table
 AB67 Command address table
 ABAF Error code table
 ABE1 Text strings
 ABF9 Search stack for GOSUB or FOR
 AC1E Open up space in memory
 AC20 Move block of memory starting at top;
 \$41-2 is destination top,
 \$43-4 is source top
 \$45-6 is destination bottom
 \$47-8 is source bottom
 AC46 Error handler
 AC73 Idle loop
 AD17 NEW (clear memory)
 AD19 Execute NEW
 AD47 Interpret loop
 AD9E Interpret loop
 ADC6 Execute line
 ADE4 RESTORE
 ADEB Check for break or pause
 AE02 END
 AE09 STOP
 AE30 CONTINUE
 AE41 CLEAR
 AE75 RUN
 AE86 GO
 AE92 GOSUL

CLUB ROOM

AEA4	RETURN	BFF2	Interrupt and reset vectors
AEE0	DATA	BBF2-BBF3	SW13
AE E3	REM or '	BBF4-BBF5	SW12
AE E8	ELSE	BBF6-BBF7	FIRQ
AF14	IF	BBF8-BBF9	IRQ
AF42	ON	BBFA-BBFB	SW11
AF67	Get unsigned integer	BBFC-BBFD	NMI
AF89	LET	BBFE-BBFF	RESET
AFF5	INPUT		
B046	READ	*****	
B0F8	NEXT	Dept 6: C000-D7FF: Disk BASIC ROM	
B156	Get expression	*****	
B1C1	Another entry in operation table	C004	Address of DSKCON
B223	Get operand	C0D4	Warm start to disk BASIC
B290	Execute functions	C17F-C1DA	Disk command token table
B2D4	AND/OR operations	C1DB-C200	Disk subroutine addresses
B2F4	Relational operations	C6C2	KILL
B34E	DIMension	C932	SAVE
B38F	Variable creation	C98B	MERGE
B3E4	Evaluate integer expression	C99A	LOAD
B3ED	Convert number in FPAC into 16-bit two's complement integer left in D register; overflow, return to BASIC if >+32767 or <-32768	CBCF	DIRectory
B4EE	MEM	CD1A	CVN
B4FD	SIR\$	CD28	MKN\$
E518	Get string	CD36	LOC
B56D	Allocate string routine	CD5B	LOF
E591	Garbage collection	CDC0	FREE
B5D8	Process one descriptor	CDE9	DRIVE
B5EF	Compact one string	CF3F	RENAME
B681	LEN	CF8A	WRITE
B68C	CHR\$	CFE0	FIELD
B6A0	ASC	D025	RSET
B6AB	LEFT\$	D026	LSET
B6C8	RIGHT\$	D080	FILES
B6CF	MID\$	D146	UNLOAD
B716	VAL	D175	BACKUP
B750	PEEK	D2CC	COPY
B757	POKE	D3FF	DSKI\$
B75E	LLIST command	D474	DSK0\$
B764	LIST command	D4AB	DSKINI
B7C2	Untokenize	D65E	VERIFY
B7E6	Untokenise one token	D66C	DSKCON
B821	Tokenize	D6C5	Restore
B892	Tokenise one word	D6FD	Get status
B8F7	PRINT	D6FD	Delay 78 msec
B97E	TAB	D705	Read/Write sector
B99C	Print text screen	D7A2	Command address table
B9AC	Print a space	D7AA	Bit table for drives
B9B4	Start of floating point routines - rounding	D7AE	NMI handler
B9B9	Subtract from FPAC1	D7BC	IRQ handler
B9C2	Add to FPAC1	*****	
EA79	Two's complement FPAC1	Dept 7: FF00-FFFF: I/O and control	
BAC5	Constant 1.0	*****	
BACA	Multiply	FF00-FF03	PIA U8
BB2F	MOVE [X] to FPAC2	FF00	Bit 0: Keyboard row 1, right joystick
BB7D	Constant 10.0		Bit 1: Keyboard row 2, left joystick
BB91	Divide		Bit 2: Keyboard row 3
BC4A	Move FPAC2 to FPAC1		Bit 3: Keyboard row 4
BC5F	Move FPAC1 to FPAC2		Bit 4: Keyboard row 5
BC6D	Test FPAC1 for zero and sign		Bit 5: Keyboard row 6
BC7A	SIGN		Bit 6: Keyboard row 7
EC93	ABSolute value		Bit 7: Joystick comparison input
EC EE	INteger	FF01	Bit 0: Control of the horizontal sync clock (63.5 micro secs)
BD12	Convert string to floating point constants 99999999.9, 999999999, 1E09		Bit 1: Interrupt input
BDCC	Display the decimal value in D register		Bit 2: Normally 1 (0 changes FF00 to data direction register)
EDD9	Convert FPAC1 to ASCII		Bit 3: SEL 1 (LSB of the two analog MUX select lines)
BEC0	Constant 0.5		Bit 4: Always 1
BEC5	Series of 4 byte constants		Bit 5: Always 1
BF1F	RaNDom		Bit 6: Not used
BF78	SINE		Bit 7: Horizontal sync interrupt flag
BFBD	Constants 2 pi, 0.25	FF02	Bit 0: Keyboard column 1
BFC8	Series of 5 byte constants		Bit 1: Keyboard column 2
			Bit 2: Keyboard column 3

FF03	Bit 3: Keyboard column 4 Bit 4: Keyboard column 5 Bit 5: Keyboard column 6 Bit 6: Keyboard column 7 Bit 7: Keyboard column 8 Bit 0: Control of the field; sync clock at 16.667 msec Bit 1: Interrupt input Bit 2: Normally 1 (0 changes FF02 to data direction register) Bit 3: SEL 2 (MSB of the two analog MUX select lines) Bit 4: Always 1 Bit 5: Always 1 Bit 6: Not used Bit 7: Felf sync interrupt flag	FF23	Bit 2: RAM size output Bit 3: VDG control output Bit 4: VDG control output Bit 5: VDG control output Bit 6: VDG control output Bit 7: VDG control output Bit 0: ;Control of the ;Cartridge interrupt Bit 1: ;input ; Bit 2: Normally 1 (0 changes FF22 to data direction register) Bit 3: Six bit sound enable Bit 4: Always 1 Bit 5: Always 1 Bit 6: Not used Bit 7: Cartridge interrupt flag
FF20-FF23	PIA U4	FF40	Output latch
FF20	Bit 0: Cassette data input Bit 1: RS232 data output Bit 2: 6 bit D/A LSB Bit 3: 6 bit D/A Bit 4: 6 bit D/A Bit 5: 6 bit D/A Bit 6: 6 bit D/A Bit 7: 6 bit D/A MSB	FF48	Disk status
FF21	Bit 0: Control of the CD; ;RS232 status input Bit 1: ; ; Bit 2: Normally 1 Bit 3: Cassette motor control; 0 = off, 1 = on Bit 4: Always 1 Bit 5: Always 1 Bit 6: Not used Bit 7: CD interrupt flag	FF49	Disk Track number
FF22	Bit 0: RS232 data input Bit 1: Single bit sound output	FF4A	Disk sector number
		FF4B	Disk data
		FFE0-FFF1	Not used
		FFF2-FFF3	SW13 vector
		FFF4-FFF5	SW12 vector
		FFF6-FFF7	FIRQ vector
		FFF8-FFF9	IRQ vector
		FFFA-FFFB	SW11 vector
		FFFC-FFFD	NMI vector
		FFFE-FFFF	Reset vector

ERROR MESSAGES

continued from page 28

The string you are working with is longer than 255 characters long. You could try to shorten the string or by dispersing the string amongst other strings.

NE 26 - "Non-Existant error" (D)(E)

The file you are trying to work with doesn't exist on that tape. Either (a) check your spelling of the filename or (b) it may be on another disk.

A DLOAD error!

NF 0 - "NEXT without a FOR" (C)

There is no appropriate NEXT after the leading FOR statement. There could be that there isn't a FOR statement in the above lines or you simply got the nested loops mixed.

NO 22 - "file Not Open" (D)(C)

If you OPEN your file first before you INPUT#1 or PRINT#1 you shouldn't get this error.

OB 29 - "Out of Buffer space" (D)

Use the FILES command to reserve more space.

OD 3 - "Out of Data" (C)

There is too little data to be read. Add more data to the end of the DATA line.

OM 6 - "Out of Memory" (C)

Not enough memory is left for the computer to execute the next command.

OS 13 - "Out of String" (C)

Not enough string space for the computer to work with. Use the CLEAR statement to clear more string space.

Ov 5 - "OVerflow" (C)

The number the computer was working with was too

big or too small.

RG 2 - "Return without a Gosub" (C)

You have a RETURN in the program without a preceeding GOSUB.

SE 35 - "SEt to non-fielded string" (D)

The field you are trying to LSET or RSET hasn't been FIELDed. Check the field line.

SN 1 - "SyNtax Error" (C)

You've typed in something the computer doesn't understand. In most cases, the command was misspelt.

ST 15 - "STring too complex" (C)

The string you were working with were too complex to work with. Try breaking up the strings to a simpler working procedure.

TM 12 - "Type Mismatch" (C)

You were trying to assign a string to a number eg A="I LIKE EATING" and vice versa, eg A\$=68.

UF 25 - "Undefined Function" (E)

You'll have to define your function first before you can use it.

UL 7 - "Undefined Line" (C)

You have a GOTO or a GOSUB that doesn't exist, eg GOTO 50 where line 50 doesn't exist.

VF 36 - "Verification Fault" (D)

The computer is telling you that one of the sectors it wrote to is faulty. Our recommendation is to rename the filename as "ERROR/XXX" and resave the file.

WP 30 - "Write Protected" (D)

You can't write to the disk because you have a write-protect notch pasted on the side of the disk.

PRINTER CODES



DMP 430

FUNCTION	: *RS	Dec	CHARACTER Hex	Symbol
Normal	0	27 29	1B 13	-----
Compressed	1	27 23	1B 17	-----
Condensed	2	27 20	1B 14	-----
Proportional	3	27 17	1B 11	-----
Proportional Compressed	5	27 47	1B 2F	-----
Correspondance Quality (10 CPI)	4	27 18	1B 12	-----
Correspondance Quality (12 CPI)	6	27 29	1B 1D	-----
Elogation Start :		27 14	1B 0E	-----
End :		27 15	1B 0F	-----
Bold Start :		27 31	1B 1F	-----
End :		27 32	1B 20	-----
Italics Start :		27 66 1	1B 42 1	-----
End :		27 66 0	1B 42 0	-----
Start Superscript		27 83 0	1B 53 0	-----
Start Subscript		27 83 1	1B 53 1	-----
End Super/Sub Script		27 88	1B 58	-----
Double Height		27 87	1B 57	-----
Microfont		27 77	1B 4D	-----
Underline Start :		15	0F	-----
End :		14	0E	-----

* RS= Rotary Switch. Must Be Set Before Power On.
Some Printer Codes for the DMP 130

DMP 130

FUNCTION	:	Dec	CHARACTER Hex	Symbol
Normal		27 19	1B 13	-----
Compressed		27 23	1B 17	-----
Condensed		27 20	1B 14	-----
Proportional		27 17	1B 11	-----
Correspondance Quality (10 CPI)		27 18	1B 12	-----

Correspondance Quality (12 CPI)		27 29	1B 1D	-----
Elogation Start :		27 14	1B 0E	-----
End :		27 15	1B 0F	-----
Bold Start :		27 31	1B 1F	-----
End :		27 32	1B 20	-----
Italics Start :		27 66 1	1B 42 1	-----
End :		27 66 0	1B 42 0	-----
Start Superscript		27 83 0	1B 53 0	-----
Start Subscript		27 83 1	1B 53 1	-----
End Super/Sub Script		27 88	1B 58	-----
Microfont		27 77	1B 4D	-----
Underline Start :		15	0F	-----
End :		14	0E	-----

BMC 80

FUNCTION	:	Dec	CHARACTER Hex	Symbol
Underline On: N>1 Off: N=0	<ESC>	45	2D	-----
Italics On	<ESC>	52	34	4
Off	<ESC>	53	35	5
Unidirectional Printing	<ESC>	60	3C	<
Emphasised On	<ESC>	69	45	E
Off	<ESC>	70	46	F
Double Strike On	<ESC>	71	47	G
Off	<ESC>	72	48	H
Set Column Width N = Characters Per Line	<ESC>	83	5D	Q
Double Width Printing	<ESC>	87	61	W
Line Feed		138	8A	LF

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EASE SPECIALISTS IN SPORTS SIMULATION SOFTWARE

Puzzle Generator

by John Wallace

An interesting exercise for the computer to sort out words into a puzzle.

Some of the words you enter will surely give the computer a headache. All instructions are included in the listing.

The Listing: WRDPZZLE

```
5 REM"PUZZLE"BY CREATIVE COMPUTI
NG-MORRISTOWN,NEW JERSEY-MODIFIE
D BY I.WALSH,ELDELSLIE HIGH SCHO
OL,6/81-ADAPTED FOR TRS-80 COCO
10 GOSUB10000-RESTORE
15 CLS
20 PRINT@135,"WORD SEARCH PUZZLE
"-PRINT@171,"GENERATOR"
30 PRINT@261,"ADAPTED BY JOHN WA
LLACE"-PRINT@295,"MMSOFTWARE 1/1
2/84"
50 PRINT@481,"Press any key to s
tart Program":IFINKEY#=""THEN50
100 CLEAR:CLEAR500
110 CLS
120 PX=-1:SQ=2
130 PRINT"IS YOUR PRINTER ON":I
NPUT<"Y/N">:IF#="N"THENPX=
0
140 IFPXTHEN#="on"
150 IFNOTPXTHEN#="off"
160 PRINT@321,"PRINTER IS ":#;
300 IF#="0"THEN#="32:GOTO315
305 GOSUB2500
310 PRINT" HOW MANY COLUMNS DOE
S YOUR PRINTER HAVE":INPUT
#
315 PRINT@337,"COLUMNS =":#;
317 GOSUB2500
320 PRINT"DO YOU WANT A SOLUTION
-PRINTOUT (Y/N)":INPUT#
325 IF#="Y"THENPRINT@450,"PRINT
ED SOLUTION REQUIRED":GOSUB2500
:GOTO300
327 PRINT@450,"NO PRINTED SOLUTI
ON":GOSUB2500
330 PRINT"WHAT IS TO BE THE WIDT
H OF THE PUZZLE (MAX=COLS/2)":
INPUT#:#=#
335 IF#="0"AND#>15THEN343
340 IF#<2=TWTHEN345
343 PRINT"THAT WILL NOT REALLY F
IT IN"TW "COLUMNS":GOTO330
345 IF#<1THEN330
346 PRINT@353,"WIDTH =":#;GOSUB
2500
350 INPUT" THE LENGTH =":L:IFL#
THEN#=#
354 IF#>0ANDL>15THENPRINT"TOO L
```

```
ONG TO FIT ON SCREEN":GOTO350
355 IFL<1THEN350
356 PRINT@385,"LENGTH =":L:GOSU
B2500
360 PRINT" WHAT IS THE MAXIMUM N
UMBER OF WORDS IN THE PUZZLE":
INPUT#
370 IF#>2THEN380
375 PRINT"SORRY, THERE MUST BE A
T LEAST TWO WORDS":GOTO360
380 PRINT@369,"MAX.WORDS =":#;G
OSUB2500
385 PRINT" ARE THESE DETAILS COR
RECT (Y/N)":INPUTCC#:#FCC#<>"Y"
THEN100
390 DIMA(L,W),W#(M),LX(M),LY(M)
395 FORM1=1TOL:FORN1=1TOW:AC(M,N
1)=0:NEXTN1,M1
400 DIMA(M,S),DXY(8,2),DD(28)
405 CLS
410 PRINT"ENTER A HEADING THAT W
ILL BE PRINTED OVER THE PUZZL
E"
420 PRINT<"TW"CHARACTERS MAXIMU
M">
425 INPUT"NAME =":XY#
435 XZ#=XY#
436 CLS:PRINTTAB(7)XY#
437 PRINT"PRINT
440 PRINT"OK...ENTER A WORD AT E
ACH QUESTION MARK"
450 PRINT"TO RE-DO THE PREVIOUS
WORD TYPE A HYPHEN (-)"
460 PRINT"WHEN YOU RUN OUT OF WO
RDS TYPE A FULL-STOP (.)"
462 PRINT
467 ZX=0
470 FORI=1TOW
480 PRINTI:INPUT#:#IF#=""THEN
I=I-1:PRINT"RE-DO":W#(I)=".":G
OTO480
490 IF#="" THEN#="1-1:GOTO660
500 IFL<1#>0THENPRINT"INPUT E
RROR: RE-DO":GOTO480
510 J=1
520 TE#=#MID#(T#,J,1):IFTE#=#"A"
NDTE#=#"2"THEN570
525 IFTE#=#"A"ORTE#=#"2"THEN530
526 IFJ=10RJ=LEN(T#)THEN2000
527 DL#=#LEFT#(T#,J-1)+DR#=#RIGHT#
(T#,LEN(T#)-J):T#=#DL#CHR#(ASC
(MID#(T#,J,1))+32)+DR#:GOTO570
530 IFTE#=#T#THEN#=""GOTO500
540 IFJ=LEN(T#)THEN#=#LEFT#(T#,J
-1):GOTO580
550 IFJ=1THEN#=#RIGHT#(T#,(LEN(T
#)-1)):J=J-1:GOTO570
560 T#=#LEFT#(T#,J-1)+RIGHT#(T#,(
LEN(T#)-J)):J=J-1
570 J=J+1:IFJ<=LEN(T#)THEN520
571 IFL<10THEN580
572 IFL>9THEN585
```

```
580 PRINTTAB(5)="-":T#="-":GOTO60
0
585 PRINTTAB(4)="-":T#="-"
600 IFL<1#>0#>0THEN610
605 PRINT"THAT'S TOO LONG I'M AF
RAID"
607 PRINT"TRY ANOTHER ONE":GOTO4
80
610 FORJ2=1TOW-1:IFW#(J2)>T#THE
NNEXTJ2:GOTO630
620 PRINT"YOU'VE ENTERED THAT ON
E ALREADY TRY ANOTHER":GOTO480
630 W#(J2)=T#
635 IFZX<LEN(T#)THENZX=LEN(T#)
640 NEXTJ
645 CLS
650 PRINT"THAT'S IT...":M;"WORDS
."
660 PRINT"NOW LET ME PONDER THIS
....."
664 ZX=ZX+1:ZW=INT(TW/ZX):ZN=0
680 FORI=1TOW-1
685 FORJ=I+1TOW
690 IFL<W#(I)><LEN(W#(J))THENH
Z#=#(I):W#(I)=W#(J):W#(J)=HZ#
700 NEXTJ,I
710 FORI=1TOW:READDXY(I,1),DXY(I
,2):NEXT
720 FORI=1TOW28:READDD(I):NEXT
730 DATA0,1,1,1,1,0,1,-1,0,-1,-1
,-1,-1,0,-1,1
740 DATA2,4,6,8,2,4,6,8,2,4,6,8,
2,4,6,8,2,4,6,8,2,4,6,8,1,3,5,7
745 CT=1
750 FORI=1TOW
760 LN=LEN(W#(I))
770 NT=0
790 SD=DD(RND(28))
800 SX=RND(W):X1=SX+(LN-1)*DXY(S
D,1):IFX1<10RX1)WTHEN790
810 SY=RND(L):X1=SY+(LN-1)*DXY(S
D,2):IFX1<10RX1)LTHEN790
820 NT=NT+1
821 PC=INT(NT#9/(W#L#SQ))
822 POKE16384,(9-PC)+48+128
825 IFNT<W#L#SQTHEN850
826 POKE16384,32+128
827 SOUND100,2
830 PRINT"COULDN'T FIT ":W#(I)
"/":PRINT"IN THE PUZZLE"
832 INPUT"DO YOU WANT ME TO TRY
AGAIN":#
834 IFL<1#>0#>0THEN750
836 W#(I)=""GOTO950
850 #=#SY:K=#SX
860 FORP=1TOLN
870 IFL<J,K)>0ANDAC(J,K)>ASC(NI
D#(W#(I),P,1))THEN790
880 J=J+DXY(SD,2):K=K+DXY(SD,1):
NEXTP
900 #=#SY:K=#SX
910 FORP=1TOLN:AC(J,K)=ASC(MID#(W
```

```

*(I),P,1))
920 J=J+DXY(SD,2):K=K+DXY(SD,1):
NEXTP
940 W(I,1)=SX:W(I,2)=SY:W(I,3)=S
D
941 POKE16384,32
945 PRINT:PRINTCT,W*(I):CT=CT+1:
LX(I)=SY:LY(I)=SX
950 NEXTI
951 PRINT"NUMBER OF WORDS =" :CT-
1:PRINT"LET ME PONDER THIS..."
952 ILEFT*(X#,1)<>"Y"THENCLS:GO
TO957
953 XY#="HERE IS THE ANSWER KEY#
"
956 AN=1
957 N=1:IFPXTHENPRINT"HOW MANY C
OPIES OF THIS PUZZLE DO YOU WAN
T":INPUTN
958 IFPXTHENPRINT"adjust top of
Page on Printer"
959 IFX#<>"Y"THEN968
960 PRINT"HIT ANY KEY TO CONTINU
E"
961 IFINKEY#=""THEN961
962 CLS:ZP=0
964 IFPXTHENGOSUB3000:GOTO968
965 GOSUB1070
968 IFPX=0THENPRINT"HIT ANY KEY
TO CONTINUE"
969 IFPX=0THENIFINKEY#=""GOTO969
970 COUNT=0:XY#="XZ#":AN=0
971 FORI=1TOL
975 FORJ=1TOW
980 IFAC(I,J)=0THENCOUNT=COUNT+1
981 NEXT:PRINT
982 IFPX=0THEN1001
984 CLS:PRINT"DO YOU WANT TO INS
ERT A MESSAGE (Y/N)":INPUTCHOIC
E#
986 IFCHOICE#="N"THENNO=1:NC=0:G
OTO1001
988 IFCHOICE#<>"Y"THEN984
990 CLS:PRINT"MAX. NUMBER OF CHA
RACTERS IN THE MESSAGE =" :COUNT
992 PRINT:PRINT"PLEASE TYPE YOUR
MESSAGE NOW":PRINT:INPUTMS#:NC=
0:NO=0
993 IFZ0=1THEN995
994 DIMZC(LEN(MS#)):Z0=1
995 FORI=1TOLEN(MS#)
996 TL#MID$(MS#,I,1)
998 IFTL#="A"ANDTL#<="Z"THENZC(
NC)=ASC(TL#):NC=NC+1
999 NEXTI
1000 IFNC>COUNTTHEN990
1001 FORI=1TOL
1002 FORJ=1TOW
1003 IFAC(I,J)<>0THEN1006
1004 IFNO>NCTHENAC(I,J)=(RND(26)
+64):GOTO1006
1005 AC(I,J)=ZC(NO):NO=NO+1
1006 NEXT:PRINT
1010 FORI=1TOW-1:FORJ=I+1TOW
1020 IFW*(I)<W*(J)THEN1030
1021 HZ#=W*(I):W*(I)=W*(J):W*(J)
=HZ#
1030 NEXTJ:NEXTI
1060 FORC=1TOW:IFPXTHENGOSUB3000
:NEXTC:GOTO1240
1065 GOSUB1070:NEXTC:GOTO1240
1070 REM
1080 T=(TW-2*W)/2
1100 PRINTTAB((TW-LEN(XY#))/2):X
Y#
1110 PRINT
1115 IFANTHENPRINTTAB((TW-LEN(XZ
#))/2):XZ#:PRINT
1120 FORJ=1TOL
1121 IFT<>0THENPRINTTAB(T)
1130 FORK=1TOW
1133 PRINT""
1134 IFAC(J,K)=0THENPRINT". ":G
OTO1140
1135 PRINTCHR$(AC(J,K)):""
1140 NEXTK:PRINT:NEXTJ
1145 IFPX=0THENPRINT"HIT ANY KEY

```

```

TO CONTINUE"
1146 IFINKEY#=""THEN1146
1150 PRINT
1160 PRINT"FIND THESE HIDDEN WOR
DS IN THE ABOVE PUZZLE"
1170 PRINT
1174 ZP=ZP+5+L
1180 FORJ=1TOW:IFLEN(W*(J))=0THE
N1210
1185 IFAN=1THENZP=ZP+1
1195 IFAN=1THENPRINTW*(J),("<LXC
J>","LYCJ)")
1200 IFAN=1THEN1210
1202 PRINTW*(J)
1204 ZH=ZH+1
1206 IFZK<>ZWHEN1210
1208 PRINT:ZH=0:ZP=ZP+1
1210 NEXT
1240 END
2000 IFJ=1THENDL#="" :DR#=RIGHT$(
T#,LEN(T#)-J):T#=DL#+CHR$(ASC(
MID$(T#,J,1))+32)+DR#:GOTO570
2100 IFJ=LEN(T#)THENDL#=LEFT$(T#
,J-1)+DR#="" :T#=DL#+CHR$(ASC(MID
$(T#,J,1))+32)+DR#:GOTO570
2500 REMCLSROUTINE
2510 FORI=0TO256STEP32:PRINT@1,"
":NEXT:PRINT@0,:RETURN
3000 REM#PRINTER ROUTINE
3005 T=(TW-2*W)/2
3010 LPRINTTAB((TW-LEN(XY#))/2):
XY#
3020 LPRINT
3030 IFANTHENLPRINTTAB((TW-LEN(X
Z#))/2):XZ#:LPRINT
3040 FORJ=1TOL
3050 IFT<>0THENLPRINTTAB(T)
3060 FORK=1TOW
3080 IFAC(J,K)=0THENLPRINT". ":G
OTO3100
3090 LPRINTCHR$(AC(J,K)):""
3100 NEXTK:LPRINT:NEXTJ
3110 LPRINT
3120 LPRINT" THESE WORDS ARE HID
DEN IN THIS PUZZLE. SEE HOW MAN
Y OF THEM YOU CAN FIND."
3130 LPRINT
3140 ZP=ZP+5+L
3150 FORJ=1TOW:IFLEN(W*(J))=0THE
N3230
3160 IFAN=1THENZP=ZP+1
3170 IFAN=1THENLPRINTW*(J),("<L;
X(J>","LYCJ)")
3180 IFAN=1THEN3230
3190 LPRINTW*(J)
3200 ZH=ZH+1
3210 IFZK<>ZWHEN3230
3220 LPRINT:ZH=0:ZP=ZP+1
3230 NEXT:LPRINT:LPRINT
3240 LPRINT:LPRINT:LPRINT
3250 ZP=ZP+2:ZH=0
3260 IFAN<>1ANDZH=0THENZJ=ZP:ZH=
1
3270 IFAN=1THENZP=0:GOTO3300
3280 IFZJ<60-2PTHEN3300
3290 ZP=0
3300 RETURN
10000 CLS2
10020 DATA226,194,162,130,98,66,
67,68,69,70,71,72,104,136,197,22
9,261,262,263,264,265,266,267,23
5,203,171,139,107,101
10030 DATA232,133,200,89,4,89,4,
89,4,32,4,58,4,58,4,32,10
10040 A#="CHR$(128)
10045 FORI=1TO44:READDUMMY#:NEXT
10050 FORA=1TO32
10060 READD
10070 PRINT@D,A#
10080 FORT=1TO50:NEXT
10090 NEXT
10100 PRINT@163,"software":
10110 FORS=1TO7:READN,L:SOUNDN,L
=NEXTS
10120 PRINT@180,"presents":
10130 FORI=1TO1000:NEXT
10140 RETURN

```

HINTS

by Gary Furr

LINE LIST

Will list for you each line and you are able to slow it down.

The Listing: LINELIST

```

2 REM *** LIST ALL LINES ***
4 REM GARY FURR
5 REM RUN IT AND LOAD A BASIC
6 REM PROGRAM AND EXEC 32000"
7 REM "SHIFT +0" CAN BE USED
8 REM TO SLOW IT DOWN
9 REM *****
10 FORD=32000TO32034
20 READF:POKEF,F:NEXTD
30 DATA222,147,223,250,8,8,236
40 DATA0,189,244,25,134,32,189
50 DATA249,201,222,250,238,0
60 DATA223,250,166,0,129,0,39,6
70 DATA189,229,102,126,125,4,57

```

NOLIST

With this small program you can make the listing disappear but the program will still work. You can restore the listing at any time.

The Listing: NOLIST

```

1 REM ***WHERE IS THE LIST***
2 REM GARY FURR
3 REM RUN IT. TYPE LIST.WHERE
4 REM IS THE LISTING. THE
5 REM PROGRAM WILL STILL WORK.
6 REM TRY IT AGAINST OTHER
7 REM PROGRAMS.
8 REM POKE17062,57 =RESTORE
9 REM *****
10 POKE17062,126:POKE17063,129:P
OKE17064,00
15 FORF=32000TO32005
20 READD:POKEF,D:NEXTF
25 DATA20,163,189,244,25,57
26 PRINT:PRINT:PRINT:PRINT
27 PRINT" HINT"
28 PRINT"PEEK(163)+256+PEEK(164)
":PRINT"LAST LINE WHICH WAS USED
"

```

NOCURSOR

You can now make the cursor disappear or reappear as you wish.

The Listing: NOCURSOR

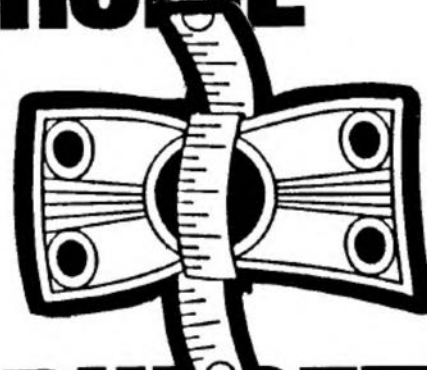
```

2 REM ***WHERE AM I***
3 REM NO CURSOR ?
4 REM #GARY FURR#
5 REM POKE17029,57
6 REM WILL RESTORE
7 REM *****
10 POKE17031,00:POKE17030,125:P
OKE17029,126
20 FORA=32000TO32005
30 READB:POKEA,B:NEXTA
40 DATA 50,50,189,248,131,57

```

16K CoCo or MC-10

HOME



BUDGET

A DATABASE type program to allow you to conduct your own Home Finance Analysis. You are asked the questions in turn through the program and by keying in the required data you will come up with all the answers to balancing the household budget. That is of course with Mr Keating's help.

The Listing: HOME

```

5 CLS
10 PRINT@4,"-HOME FINANCE ANALYS
1$-"
20 PRINT:PRINT:PRINT
50 PRINT "INPUT SALARY:";
60 INPUT DS
90 PRINT "HOW MANY PERIODS PER M
ONTH?"
100 INPUTDP
130 LET TS=(DS*DP)
140 PRINT"ANY ADDITIONAL INCOME
I SHOULD"
145 PRINT "KNOW ABOUT?"
150 INPUT A#:IF A#="YES"THEN200
160 IF A#="Y"THEN200
170 IF A#="NO"THEN300
180 IF A#="N"THEN 300
190 F INT "A SIMPLE YES OR NO WI
LL DO!":GOTO140
200 PRINT "ENTER ADDITIONAL AMOU
NT OF"
205 PRINT "INCOME."
210 INPUTAS
220 LET TS=TS+AS
300 REM FIXED EXPENCE CALCULATIO
NS
310 REM
320 LETA=000.00
330 REM
340 LET B=000.00
350 REM
360 LET C=000.00
370 REM

```

```

380 LET D=000.00
390 REM
400 LET E=000.00
500 LET FX=A+B+C+D+E
505 CLS
600 PRINT:PRINT
610 PRINT"I WILL NEED INFORMATIO
N"
620 PRINT "REGARDING THIS MONTH'
S VARIABLE"
625 PRINT"EXPENSES."
630 PRINT:PRINT"GROCERIES COST?"
640 INPUTM
650 PRINT"ELECTRIC BILL?"
660 INPUTN
670 PRINT"GAS BILL?"
680 INPUTP
690 PRINT "WATER BILL?"
700 INPUTQ
701 PRINT"TELEPHONE BILL?"
705 INPUTU
710 PRINT "HEATH COST?"
720 INPUTR
730 PRINT"CLOTHING COST?"
740 INPUT S
750 PRINT"CHARGE CARD BILL?"
760 INPUTT
770 PRINT"ANY ADDITIONAL EXPENSE
S YES OR NO."
780 INPUT B#:IF B#="YES" THEN 83
0
790 IF B#="Y" THEN 830
800 IF B#="NO" THEN 1000
810 IF B#="N" THEN 1000
820 PRINT"A SIMPLE YES OR NO WI
LL DO!":GOTO 780
830 PRINT"PLEASE DESCRIBE THE AD
DITIONAL"
840 PRINT"EXPENSE IN TWENTY CHAR
ACTERS"
845 PRINT "OR LESS."
850 INPUTAX#
860 PRINT "PLEASE ENTER THE AMOU
NT"
870 PRINT"OF THE ADDITIONAL EXPE
NSE."
880 INPUTAX
1000 LET VX=M+N+P+Q+R+S+T+U+V+AX
1110 PRINT"PRESS <ENTER> TO CONT
INUE":INPUT Z#
1115 CLS
1120 PRINT "YOUR VARIABLE EXPENS
E TOTAL":PRINT "#":VX
1130 PRINT"WHEN YOUR EXPENSES AR
E SUBSTRAC"
1150 PRINT"--TED FROM YOUR INCOME
,THE"
1155 PRINT"AMOUNT REMAINING IS:#
":(TS-(VX+FX))
1160 IF (TS-(VX+FX))<0 THEN 1400
1170 PRINT"ANY FUNDS TO SAVINGS?
YES OR NO."
1180 INPUT C#:IF C#="YES" THEN12
30
1190 IF C#="Y" THEN1230
1200 IF C#="NO" THEN 2000
1210 IF C#="N" THEN 2000
1220 PRINT"A SIMPLE YES OR NO WI
LL DO!":GOTO1170
1230 PRINT"ENTER AMOUNT DESIRED."
"
1240 INPUT SV:IF (TS-(VX+FX+SV))
<0THEN1600
1250 PRINT"PRESS <ENTER> TO CONT
INUE":INPUT Z#
1255 CLS
1260 PRINT"WHEN SAVINGS ARE DEDU
CTED FROM"
1270 PRINT "YOUR READY CASH, YOUR
NEW READY"
1275 PRINT"CASH IS: ":(TS-(VX+FX
+SV))
1280 LET RC=(TS-(VX+FX+SV)):GOTO
2000
1400 PRINT"PRESS <ENTER> TO CONT
INUE":INPUTZ#

```

```

1405 CLS
1410 PRINT"DEFLECT IN THIS MONTH
'S FINANCES"
1430 PRINT"CHOOSE AN OPTION FROM
THE MENU"
1435 PRINT"BELOW."
1440 PRINT:PRINT"<1>WITHDRAW FRO
M SAVINGS"
1450 PRINT"<2>BORROW FROM SOURCE
OF CREDIT"
1460 PRINT"<2>REDUCE FLEXIBLE EX
PENSES"
1470 PRINT:PRINT"ENTER CHOICE NU
MBER."
1480 INPUT CH
1490 ON CH GOTO1700,1800,1900
1600 PRINT"SAVINGS AMOUNT HAS CR
EATED A"
1610 PRINT"DEFICIT. PLEASE REFIG
URE SAVINGS"
1620 LET S2=0:GOTO 1170
1700 PRINT"ENTER AMOUNT FROM SAV
INGS"
1710 INPUTSH
1715 CLS
1720 PRINT"THIS AMOUNT WILL NOW
BE ADDED"
1730 PRINT "TO YOUR INCOME, AND
A NEW"
1735 PRINT"READY-CASH BALANCE S
HOWN."
1740 LET TS=TS+SH
1750 PRINT"PRESS <ENTER> TO CONT
INUE":INPUTZ#
1755 CLS
1760 GOTO1140
1800 PRINT"ENTER AMOUNT BORROWED
."
1810 PRINT"ALL LOANS WILL IMPACT
"
1815 PRINT"EXPENCES."
1820 INPUTBN
1825 CLS
1830 PRINT"THIS AMOUNT WILL NOW
BE ADDED"
1840 PRINT"TO YOUR INCOME, AND A
NEW"
1845 PRINT"READY-CASH BALANCE SO
WN."
1850 LET TS=TS+BN
1860 PRINT"PRESS <ENTER> TO CONT
INUE":INPUTZ#
1865 CLS
1870 GOTO 1140
1900 PRINT"THE FIGURES THAT YOU
RE-ENTER"
1910 PRINT"WILL REPLACE THE VARI
ABLE"
1915 PRINT"EXPENSES ENTERED EARL
IER."
1920 PRINT"PRESS <ENTER> TO CONT
INUE":INPUTZ#:CLS:GOTO 600
2000 REM
2010 PRINT:PRINT"PRESS D AND <EN
TER> TO"
2020 PRINT"DISPLAY BALANCE SHEET
."
2030 INPUT F#:IF F#="D"THEN 2070
2040 PRINT"WHAT??"
2050 GOTO 2010
2055 CLS
2070 PRINT "*****INCOME*****
FIXED*****"
2080 PRINT "*****"
XPENSES*****"
2090 PRINT"SALARY =#":(DS*DP)
2110 PRINT"ADDITIONAL=#":AS
2120 PRINT"TOTAL =#":TS
2130 REM
2140 REM
2150 REM
2160 REM
2170 REM
2250 PRINT:PRINT"PRESS N AND <EN
TER> TO DESPLAY"
2260 PRINT"THE NEXT BALANCE SHEE

```

continued on page 38

ACEY DUCE

by Barry Furman



16K CoCo or MC-10

The Listing: ACEYDUCE

Here we have another of those terrible gambling games. You don't have to go to the Casino to lose the week's wages. Still with a little care you can make a profit.

Two cards are shown on the screen and your card is face down.

You bet that your card will be between the value of the banker's two cards.

Stay home with this and lose your money where it doesn't matter.

```
10 REM acey duce
20 REM by BARRY FURMAN
30 REM 21 SUNSET LANE
40 REM LEVITTOWN, NY 11756
50 REM CONVERTED TO MC-10 BY
    JAY THOMAS, THE ORIGINAL
    16K LISTING APPEARED IN
    THE JAN '84 RAINBOW
60 REM PAGE 27-32 AS A TALKING
    VERSION FOR COCO....
65 REM MAKE ANY IMPROVEMENTS YOU
    WANT, BUT DON'T FORGET
    THAT BARRY WROTE THE GAME
    =====
```

```
70 U$=CHR$(128)
80 CLS(0):PRINT@64,"in"+U$+"this
+U$+"game"+U$+"you"+U$+"start"+
U$+"with";
90 PRINT@128,"$100.00"+U$+"and"+
U$+"bet"+U$+"that"+U$+"your"+U$+
"card";
100 PRINT@128+64,"will"+U$+"have
"+U$+"a"+U$+"value"+U$+"which"+U
$+"falls";
110 PRINT@192+64,"between"+U$+"t
he"+U$+"the"+U$+"two"+U$+"cards"
;
120 PRINT@256+64,"showing"+U$+U$
+U$+"the"+U$+"first"+U$+"card"+U
$+"has";
121 PRINT@256+128,"the"+U$+"lowe
st"+U$+"value";
125 Q=100
130 FOR X=1108000:NEXT
310 IF Q$="W"THEN GOSUB2660
320 IF Q$="L"THEN GOSUB2700
330 IF Q$="C"THEN GOSUB2740
350 IF Q$="B"THEN F=F+1
360 IF Q$=""THEN H400
400 RESET(30,18):RESET(30,19)
410 IF RND(4)=4 THEN SET(24,10,2
):SET(37,10,2)
430 N=100
440 CLS0
450 IF Q=0 THEN Q=100
460 K=K+1:IF K<>1 THEN 540
470 PRINT@224,"YOU'RE STARTING W
ITH"Q"BUCKS";GOTO 590
480 FOR X=64 TO 95
490 PRINT@X,CHR$(128);
500 NEXT X
```

continued from page 37

```
T."
2270 INPUT D$:IF D$="N" THEN 230
0
2280 PRINT"WHAT?":PRINT:GOTO225
0
2300 REM
2305 CLS
2310 PRINT"*****VARIABLE AXPE
NSES*****"
2330 PRINT"GROCERIES ="$:M
2340 PRINT"ELECTRIC BILL ="$:N
2350 PRINT"GAS BILL ="$:Q
2360 PRINT"WATER BILL":Q
2365 PRINT"TELEPHONE BILL=":U
2370 PRINT"HEATH COST ="$:R
2380 PRINT"CLOTHING COST ="$:S
2390 PRINT"CHARGE CARD ="$:T
2395 PRINT"ADDITIONAL EXPENSES"
2400 PRINT AX$:"="":AX
2401 PRINT:PRINT"PRESS H AND <EN
TER> TO CONTINUE"
2402 INPUT F$:IF F$="H" THEN2404
2403 PRINT"WHAT?":PRINT:GOTO240
1
2404 REM
2405 CLS
2410 PRINT"FIXED EXPENSES TOTAL:
$":FX
2420 PRINT"VARIABLE EXPENSES TOT
AL:"$:VX
2430 IF SV>0 THEN PRINT"AMOUNT T
O SAVINGS IS: $":SV
2440 IF SN>0 THEN PRINT"AMOUNT F
ROM SAVINGS IS: $":SN
2450 IF BN>0 THEN PRINT"AMOUNT B
ORROWED IS: $":BN
2460 PRINT"REMAINING READY-CASH
IS:$(TS-(VX+FX+SV))
2470 PRINT"PRESS Y AND <ENTER>FO
R MENU."
2480 INPUT E$:IF E$="Y" THEN GOT
O 2500
2490 PRINT"WHAT?":PRINT:GOTO247
0
2500 REM
2505 CLS
```

```
2510 PRINT"WOULD YOU LIKE TO:"
2520 PRINT"(1)RE-DISPLAY ENTIRE
BALANCE SHEET"
2530 PRINT"(2)RE-RUN THE PROGRAM
FROM START"
2540 PRINT"(3)RE-RUN THE VARIABLE
EXPENSE"
2545 PRINT" PORTION"
2550 PRINT"(4)PRINT HARD COPY"
2555 PRINT"(5)QUIT"
2560 PRINT"ENTER NUMBER OF CHOIC
E."
2570 INPUTZ
2575 CLS
2580 ON Z GOTO 1000,10,1900,3000
,2590
2590 PRINT:PRINT
2600 PRINT"*****HAVE A NICE D
AY*****"END
3000 CLS
3005 PRINT@197,"POSITION TOP OF
PAPER"
3010 PRINT@260,"PRESS <ENTER> WH
EN READY":INPUTZ#
3011 FOR I=1 TO 2
3012 LPRINT,CHR$(27);CHR$(54):NE
XTI
3015 LPRINT,CHR$(27);CHR$(14)
3020 LPRINT," FINANCIAL STA
TEMENT":CHR$(27);CHR$(15)
3025 FOR I=1 TO 2
3030 LPRINT,CHR$(27);CHR$(54)
3035 NEXT I
3040 LPRINT "*****FIXED INCOM
E*****"
3045 LPRINT "*****EXPENS
ES*****"
3050 LPRINT " SALARY ="$(CDS#
DP)
3055 LPRINT " ADDITIONAL=#
":AS
3060 LPRINT " TOTAL
="":IS
3090 LPRINT,CHR$(27);CHR$(54)
3095 LPRINT,"*****"
*****VARIABLE EXPENSES*****
```

```
*****"
3100 LPRINT"GROCERIES ="$:M
3105 LPRINT"ELECTRIC BILL="$:N
3110 LPRINT "GAS BILL ="$:P
3115 LPRINT "WATER BILL ="$:Q
3120 LPRINT "TELEPHONE BILL=":U
3125 LPRINT "HEATH COSTS ="$:R
3130 LPRINT "CLOTHING COSTS="$:S
3135 LPRINT "CHARGE CARDS ="$:T
3140 LPRINT"ADDITIONAL EXPENSES"
3145 LPRINT,AX$:"="":AX
3150 FOR I=1 TO 2
3155 LPRINT,CHR$(27);CHR$(54):NE
XTI
3160 LPRINT "FIXED EXPENSES TOTA
L:"$:FX
3165 LPRINT "VARIABLE EXPENSES T
OTAL:"$:VX
3170 IF SV>0 THEN LPRINT "AMOUNT
OF SAVINGS IS:"$:SV
3180 IF BN>0 THEN LPRINT "AMOUNT
BORROWED IS:"$:BN
3185 LPRINT "REMAINING READY-CAS
H IS:$(TS-(VX+FX+SV))
3190 LPRINT,CHR$(12)
3195 CLS
3200 PRINT"PRESS Y AND <ENTER> F
OR MENU."
3205 INPUT E$:IF E$="Y" THEN GOT
O 2500
3210 PRINT "WHAT?":PRINT:GOTO32
00
```




```

510 FOR X=64 TO 95
520 PRINT@X,CHR$(128);
530 NEXT X
540 FOR X=64 TO 95:PRINT@X,CHR$(
128);:NEXT X:PRINT@68,"YOU NOW H
AVE"@"DOLLARS.";
550 PRINT@459,"#";:PRINT@460,0;
560 FOR X=1 TO 1100
570 NEXT X
580 IF K<>1 THEN 610
590 FOR J=1 TO 900
600 NEXT J
610 GOTO 660
620 0=0+M
630 GOTO 460
640 0=0-M
650 GOTO 460
660 L=L+1:IF L>1 THEN N#="NEXT":
GOSUB1690
665 IF L<=1 THEN N#="FIRST":GOSU
B 1690
670 IF L>1 THEN PRINT@16,"NEXT T
WO CARDS.";
680 A=RND(13)
690 B=RND(13)
700 IF A>B THEN 680
710 IF B-A=1 THEN 680
720 GOTO 740
730 GOTO 640
740 RESTORE
750 DATA 1,A,2,2,3,3,4,4,5,5,6,6
,7,7,8,8,9,9,10,10,11,J,12,0,13,
K,14
760 READ G:IF G=14 THEN 800
770 READ C#
780 IF A=G THEN L#=#C#
790 GOTO 760
800 RESTORE
810 READ G:IF G=14 THEN 850
820 READ C#
830 IF G=B THEN V#=#C#
840 GOTO 810
850 GOSUB 1800
860 GOTO 870
870 PRINT@288,"WHAT'S YOUR BET";
:INPUT M
880 FOR X=310 TO 319
890 PRINT@X,CHR$(128);
900 NEXT X
910 IF M<>0 THEN 1010
920 PRINT@437,"CHICKEN!!!";
930 SOUND21,8:SOUND16,18
940 FOR X=288 TO 319
950 PRINT@X,CHR$(128);
960 NEXT X
970 FOR X=437 TO 447
980 PRINT@X,CHR$(128);
990 NEXT X
1000 GOTO 660
1010 IF M<=0 THEN 1140
1020 T=339-PRINT@T,"SORRY BUT YO
U";:PRINT@T+32,"BET TOO MUCH";
1030 PRINT@T+64,"YOU ONLY HAVE";
:PRINT@T+96,@"DOLLARS ";:PRINT@T
+131,"TO BET.";
1040 PRINT@T+161," BET AGAIN ";
1050 FOR D=1 TO 1750
1060 NEXT D
1070 FOR X=299 TO 319
1080 PRINT@X,CHR$(128);:NEXT X
1090 FOR G=39 TO 63
1100 FOR J=18 TO 31
1110 RESET(G,J)
1120 NEXT J,G
1130 GOTO 860
1140 C=RND(13)
1150 RESTORE
1160 READ G
1170 IF G=14 THEN 960
1180 READ C#
1190 IF G=C THEN D#=#C#
1200 GOSUB 2420
1210 GOTO 1220
1220 IF C#A THEN 1240
1230 GOTO 1410
1240 IF C#>B THEN 1410
1250 FOR Y=1105
1260 PRINT@405,"YOU WIN!!!";
1270 SOUND 225,5
1280 PRINT@405,CHR$(128);:PRINT@
406,CHR$(128);:PRINT@407,CHR$(12
8);:PRINT@408,CHR$(128);:PRINT@4
09,CHR$(128);:GOTO 1285
1285 PRINT@410,CHR$(128);:PRINT@
411,CHR$(128);:PRINT@412,CHR$(12
8);
1290 PRINT@413,CHR$(128);:PRINT@
414,CHR$(128);
1300 NEXT Y
1310 FOR P=300 TO 319
1320 PRINT@P,CHR$(128);
1330 NEXT P
1340 FOR Z=288 TO 319
1350 PRINT@Z,CHR$(128);
1360 NEXT Z
1370 FOR X=405 TO 415
1380 PRINT@X,CHR$(128);
1390 NEXT X
1400 GOTO 620
1410 PRINT@438,"SORRY.";:PRINT@4
69,"YOU LOSE!";
1420 SOUND13,12
1430 FOR X=1 TO 1010
1440 NEXT X
1450 FOR Y=288 TO 319
1460 PRINT@Y,CHR$(128);
1470 NEXT Y
1480 FOR X=438 TO 447
1490 PRINT@X,CHR$(128);
1500 PRINT@X+30,CHR$(128);
1510 NEXT X
1520 IF M<0 OR 0=0 THEN640
1530 PRINT
1540 V=307-PRINT@V,"SORRY FRIEND
.";:PRINT@V+34,"YOU LOST";:PRINT
@V+65,"YOUR DOUGH..";
1550 PRINT@436,"WANT TO TRY";:PR
INT@468,"AGAIN(Y/N)";:PRINT@505,
"";:INPUT A#
1560 FOR X=478 TO 483
1570 PRINT@X,CHR$(128);
1580 NEXT X
1590 IF A#="Y" THEN 80
1600 PRINT@484,"O.K. HOPE YOU HA
D FUN!!!";
1610 FOR X=508 TO 510
1620 PRINT@X,CHR$(128);
1630 NEXT X
1640 GOTO 1640
1650 CLS0
1660 FOR H=11 TO 21
1670 FOR V=5 TO 13
1680 SET(H,V,5)
1690 CLS0:PRINT@2,"HERE ARE YOUR
"NF" TWO CARDS";
1700 PRINT@288,"NEXT CARD";
1710 REM#GREEN PILE OF DOUGH#;
1720 PRINT@361,"YOUR DOUGH";
1730 FOR X=425 TO 434
1740 PRINT@X,CHR$(143+80);
1750 PRINT@X+32,CHR$(143+80);
1760 PRINT@X+64,CHR$(143+80);
1770 NEXT X
1780 PRINT@459,"#";:PRINT@460,0;
1790 RETURN
1800 REM #BACK OF CARD#;
1810 FOR X=64 TO 96
1820 PRINT@X,CHR$(128);
1830 NEXT X
1840 FOR H=10 TO 21
1850 FOR V=7 TO 15
1860 PRINT@288,"NEXT CARD";
1870 PRINT@69,"HERE'S THE SHUFFL
E...";
1880 SET(H,V,4)
1890 SET(10,V,5):SET(21,V,5)
1900 SET(H+32,V+1,4)
1910 REM #;
1920 SET(H-6,V+15,4)
1930 SET(42,V+1,5):SET(52,V+1,5)
1940 0=0+1
1950 REM #;
1960 SET(4,V+15,5):SET(14,V+15,5
)
1970 NEXT V,H
1980 PP=PP+1:IF PP>20 THEN 2010
1990 SOUND190+PP,1
2000 GOTO 1980
2010 PP=0:FOR X=101 TO 106
2020 PRINT@X,CHR$(131+64);
2030 REM
2040 PRINT@X+221,CHR$(131+64);
2050 PRINT@X+160,CHR$(140+64);
2060 REM #;
2070 PRINT@X+381,CHR$(140+64);
2080 PRINT@X+16,CHR$(131+64);
2090 PRINT@X+176,CHR$(140+64);
2100 REM
2110 NEXT X
2120 FOR I=1 TO 1500
2130 NEXT I
2140 FOR H=12 TO 21
2150 FOR V=6 TO 13
2160 PRINT@65,"NOW I'LL TURN THE
CARDS OVER...";
2170 SET(H,V+2,5):SET(H+32,V+2,5
)
2180 NEXT V
2190 NEXT H
2200 FOR V=7 TO 12
2210 SET(11,V,5)
2220 SET(21,V,5)
2230 NEXT V
2240 PRINT@200,CHR$(132+64);
2250 PRINT@199,CHR$(142+64);
2260 PRINT@232,CHR$(135+64);
2270 PRINT@215,CHR$(128);
2280 PRINT@216,CHR$(128);
2290 PRINT@217,CHR$(133+64);
2300 PRINT@248,CHR$(135+64);
2310 PRINT@184,CHR$(140+64);
2320 PRINT@183,CHR$(142+64);
2330 PRINT@134,L#;
2340 SOUND90,2
2350 FOR J=1 TO 1000
2360 NEXT J
2370 PRINT@150,V#;
2380 SOUND110,1
2390 FOR X=1 TO 1600
2400 NEXT X
2410 RETURN
2420 REM#RETURN OVER DEALER'S CAR
DS#;
2430 FOR X=1 TO 1000
2440 NEXT X
2450 FOR H=4 TO 14
2460 FOR V=23 TO 30
2470 SET(H,V,5)
2480 NEXT V,H
2490 PRINT@420,CHR$(128);
2500 PRINT@421,CHR$(128);
2510 PRINT@422,CHR$(133+64);
2520 PRINT@388,CHR$(142+64);
2530 PRINT@389,CHR$(140+64);
2540 PRINT@453,CHR$(135+64);
2550 RESTORE
2560 READ G
2570 IF G=14 THEN 2610
2580 READ C#
2590 IF G=C THEN D#=#C#
2600 GOTO 2560
2610 FOR X=1 TO 300
2620 NEXT X
2630 PRINT@355,D#;
2640 RETURN
2650 GOTO 2650
2660 FOR X=1 TO 4
2670 SOUND225,5
2680 NEXT X
2690 RETURN
2700 FOR X=1 TO 8
2710 NEXT X
2720 SOUND13,17
2730 RETURN
2740 FOR X=1 TO 8
2750 NEXT X
2760 SOUND21,8:SOUND16,18
2770 RETURN

```

Tandy
ELECTRONICS

MODEL 4 TANDY DESKTOP COMPUTER



**SAVE
\$700**

Reg 1999.00 **\$1299**

What a price breakthrough! The **Tandy Model 4** is the perfect computer for busy managers, educators and home computer enthusiasts. Has a spacious 64K memory expandable to an enormous 128K! Featuring a numeric keypad, dual disk drives, parallel

printer interface and a huge ready-to-run software library. Includes an easy to follow owners manual and introductory booklet to help get you started. With amazing value like this you wouldn't want to miss out! 26-1069

Tandy Computer Cassette Recorders



A
89⁹⁵

B
79⁹⁵

A. CCR-81. Ideal for loading and saving your own programs and data on cassette tapes. Requires 4 "C" batteries (not incl.) or 240V AC. Includes cable. 26-1208
B. CCR-82. Our *lowest-priced* computer cassette recorder. Includes cable. Requires 4 "AA" batteries or AC adapter. (Batteries & AC adapter not incl.) 26-1209

Fast Daisy Wheel Printer

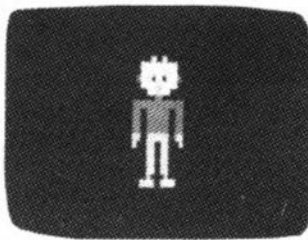


Reg 999.00

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DWP-220. Here's an extremely affordable way to expand your computer! Prints over 200 wpm in clear, sharp, "electric typewriter" characters. Uses interchangeable print wheels that simply drop in — no mess. 26-1278

SOFTWARE FOR COLOR COMPUTER



Reg
79.95

SAVE \$20

A. Color Computer Learning Lab. With a 200-page manual, 8 cassette tapes and 30 lessons. Was 79.95. 26-3153. **Now 59.95**



Reg
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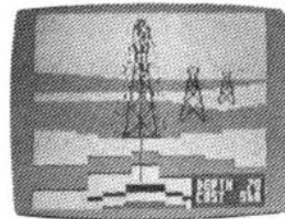
D. Sands of Egypt (Disk). Discover the secret of the ancient Tomb of Ra! Was 79.95 Sorry no rainchecks. 26-3290. **Now 59.95**



Reg
79.95

SAVE \$20

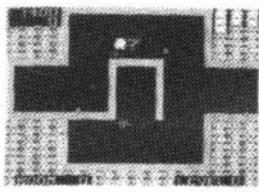
B. Micro Illustrator (Disk). Draw beautiful pictures and designs like a pro! Was 79.95 26-3278. **Now 59.95**



Reg
49.95

SAVE \$20

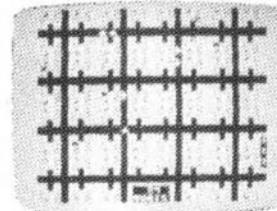
E. Wildcatting (ROM Pack). Hit a gusher and you're in the money! Was 49.95 Sorry no rainchecks. 26-3067. **Now 29.95**



Reg
79.95

SAVE \$20

C. Shamus (Disk). Enjoy this fast-paced space-odyssey adventure game. Was 79.95 26-3289. **Now 59.95**



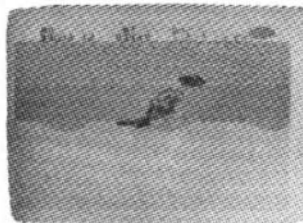
Reg
69.95

SAVE \$20

F. Poltergeist (ROM Pack). Based on the hit Spielberg movie. Was 69.95. Sorry no rainchecks. 26-3073. **Now 49.95**

B, C, E, F needs joystick or mouse.

Tandy 1000 Software

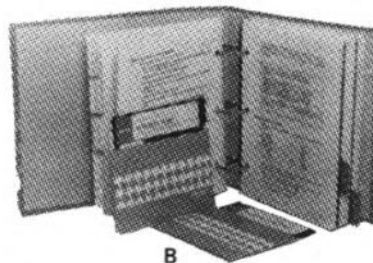


A

Reg 749.95

SAVE \$200
549⁹⁵

A. Microsoft Word. Enjoy using our deluxe word processing system. Displays up to eight windows at once. With various text forms. Requires 256K. Was 749.95 25-1153. **Now 549.95**



B

Reg 79.95

SAVE \$20
59⁹⁵

B. BC's Quest for Tires. An action game featuring Thor from the comic strip BC. Help Thor as he tries to rescue Cute Chick. Was 79.95 Sorry no rainchecks. 25-1115. **Now 59.95**

Accessories



A
Reg 5.95
4⁹⁵

SAVE \$1



B

34⁹⁵



C

79⁹⁵

A. Computer Cassettes. Certified for reliable data storage. Was 5.95 26-301. **Now 4.95**
B. Joysticks. Fast 360° movement, single shot button. 26-3008. **34.95**
C. Color Mouse. For speed and ease in games and graphics. 26-3025. **79.95**

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Order On VIATEL #642

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Prices may also vary at individual Dealer Stores

CALENDAR

S M T W T F S S M T W T F S S M T W T F S
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 November

by L.W. Thurbon

CALENDAR WILL compute and printout on the screen and on your printer any month of any year between the years 1601 - 10099 (though I doubt the CoCo will be around in the year 10000). Just type in the program and run it, be sure to follow all on screen instructions.

The Listing:

```

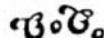
0 GOTO10
3 SAVE"CALENDR:3
4 END
10 REM THE PERPETUAL CALENDAR.
    BY L.W.THURBON. COPYRIGHT.
    PIXEL SOFTWARE. MAY 1985.
20 CLEAR:DIMMS(12):SS=" *****
*****"
30 DATA JANUARY, FEBRUARY, MARCH, A
PRIL, MAY, JUNE, JULY, AUGUST, SEPTEM
BER, OCTOBER, NOVEMBER, DECEMBER
40 FORN=1TO12:READMS(N):NEXTN
50 CLS
60 PRINTS:PRINT" PERPETUAL CA
LENDAR PROGRAM":PRINTS$
70 PRINT:PRINT" ENTER THE MONTH
YOU REQUIRE WITHIN THE RANGE
(1-12)":INPUTM
80 PRINT:PRINT" ENTER THE YEAR Y
OU REQUIRE IN THE RANGE (1601-
10099) ":INPUTY:YP=Y:V=6
90 IF M<1 OR M>12 THEN50
100 IF Y<1601 OR Y>10099 THEN50
110 IF Y>9399 THEN Y=Y-7500
120 IF Y>8699 THEN Y=Y-6800
130 IF Y>7999 THEN Y=Y-6100
140 IF Y>7299 THEN Y=Y-5400
150 IF Y>6599 THEN Y=Y-4700
160 IF Y>5899 THEN Y=Y-4000
170 IF Y>5199 THEN Y=Y-3300
180 IF Y>4499 THEN Y=Y-2800
190 IF Y>3799 THEN Y=Y-2100
200 IF Y>3099 THEN Y=Y-1400
210 IF Y>2399 THEN Y=Y-700
230 IF Y>2000 THEN W=0
240 W=(W+(Y-1600))+INT((Y-1600-1
)/4)+1-INT((Y-1600-1)/100)
250 W=W-INT(W/7)*7:LY=0
260 IFY-INT(Y/4)*4=0 THEN LY=1
270 IFY-INT(Y/100)*100=0 THEN LY
=0
280 IFYP-INT(YP/400)*400=0 THEN
LY=1
290 IFM=2 THEN W=W+3
300 IFM=3 THEN W=W+3+LY
310 IFM=4 THEN W=W+6+LY
320 IFM=5 THEN W=W+8+LY
330 IFM=6 THEN W=W+11+LY
340 IFM=7 THEN W=W+13+LY

```

```

350 IFM=8 THEN W=W+16+LY
360 IFM=9 THEN W=W+19+LY
370 IFM=10 THEN W=W+21+LY
380 IFM=11 THEN W=W+24+LY
390 IFM=12 THEN W=W+26+LY
400 W=W-INT(W/7)*7:DM=31
410 IFM=2 THEN DM=28+LY
420 IF M=4 OR M=6 OR M=9 OR M=11
THEN DM=30
430 CLS
440 PRINT@35,"SUN MON TUE WED TH
U FRI SAT"
450 FORN=65 TO 93:PRINT@N,CHR$(4
2):NEXTN
460 FORN=94 TO 478 STEP32:X=42
470 PRINT@N,CHR$(X):NEXTN
480 FORN=449 TO 478:PRINT@N,CHR$
(X):NEXTN
490 FORN=65 TO 450 STEP32:PRINT@
N,CHR$(X):NEXTN:MC=LEN(M$(M))
500 PRINT@16-(MC+5)/2,M$(M):" -"
;YP:C=0:FORN=1TO DM
510 IFN=1 THEN C=99+(W*4):GOTO57
0
520 IFC=187 AND N>9 THEN C=C+39:
GOTO570
530 IFC=123 OR C=186 OR C=187 TH
EN C=C+40:GOTO570
540 IFC=250 OR C=314 OR C=378 TH
EN C=C+40:GOTO570
550 IFN=10 THEN C=C+3:GOTO570
560 C=C+4
570 BS=STR$(N):PRINT@C,B$:NEXTN
:SOUND200,3:PRINT@480,"'P' FOR P
RINTER OR 'N' FOR NEXT";
580 AS=INKEYS:IFAS="" THEN580
590 IFAS<>"P" THEN50
600 POKE150,40:PRINT#-2,CHR$(27)
CHR$(14)
610 FORS=1024TO1503:P=PEEK(S)
620 IFP>127THENP=32
630 IFP>95THENP=P-64
640 IF (S AND 31)=0THEN PRINT#-2
,CHR$(13)
650 PRINT#-2,TAB(4);CHR$(P):NEX
TS
660 GOTO50
670 END

```



DMP 100

by Allan Thompson
 16K CB

THIS PROGRAM tests the DMP 100 and it's serial / parallel interface settings. I had a problem and wrote this to test each adjustment I made.

To use it simply enter the baud rate and the poke when asked to. You should of course alter the interface setting also.

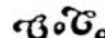
Have fun with it anyway.

The Listing:

```

1 '**printer/interface test**
    by allan thompson
2 GOTO4
3 SAVE"100C:3":END
4 GOSUB50:CLS
10 CLS:POKE359,57:SCREEN0,1:PRIN
T:PRINT
20 INPUT"BAUDRATE";BD:SOUND200,1
25 INPUT"ENTER POKE150,#.(PK)";P
K:SOUND200,1
26 POKE 150,PK:PRINT"POKE150,";P
K:PRINT"THIS IS BAUD";BD:PRINT#-
2,"THIS IS BAUD ";BD:PRINT:PRINT
#-2:REM *** the test ***
40 PRINT#-2,"ABCDEFGHIJKLMNPOQRS
TUVWXYZabcdefghijklmnopqrstuvwxy
z1234567890 COMPLETED":PRINT
"**:COMPLETED**":SOUND180,9:SOUN
D200,2:POKE359,126:END
50 CLS:PRINT@97,"THIS PROGRAM TE
STS THE DMP100":PRINTTAB(4)" AND
IT'S SERIAL/PARALLEL":PRINTTAB(
4)"INTERFACE SETTINGS. I HAD A":
PRINTTAB(4)"PROBLEM AND WROTE TH
IS TO":PRINTTAB(4)"TEST EACH ADJ
USTMENT I MADE."
51 GOSUB100:CLS:PRINT@97,"TO USE
IT SIMPLY ENTER THE":PRINTTAB(4
)"BAUD RATE AND THE POKE WHEN":P
RINTTAB(4)"ASKED TO.":PRINTTAB(4
)"YOU SHOULD OF COURSE ALTER":PR
INTTAB(4)"THE INTERFACE SETTING
ALSO.":PRINTTAB(36)"HAVE FUN WIT
H IT ANYWAY."
52 PRINTTAB(36)"COMPLIMENTS ALLA
N THOMPSON"
100 FORT=1TO7000:NEXT:RETURN
101 END

```



LOAN

by Brian Grey

16KCB + PRINTER
BUSINESS

THE IDEA for this program came quite easily and unexpectedly. About two months ago one of the young tradesmen at work was telling me about his first payment on his house loan. It appeared from what he was saying that he was not aware of the large amount of interest he would have to pay on his sizeable loan. So I set to work making the program "LOAN".

The program will ask for all the variables and then send to the screen and printer the remaining principal after the quarterly repayment has been made. The summary at the end of the printout tells total number of repayments, interest paid and day of last payment. You now have the option of re-doing the exercise with extra payments on top of the quarterly repayments. The program indicates the saving of the original interest.

The program will run on RUN"LOAN".

The Listing:

```

0 GOTO10
1 'LOAN -- BRIAN GREY
2 SAVE"LOAN:3":END
10 POKE150,18
15 CLS
20 FORX=1024TO1054 STEP 2
22 POKEX,36:NEXT
24 FORX=1087TO1503STEP 64
26 POKEX,36:NEXT
28 FORX=1504TO1535 STEP2
30 POKEX,36:NEXT
32 FORX=1056TO1472 STEP64
34 POKEX,36:NEXT
36 PRINT@200,"THE HOUSE LOAN"
38 PRINT@400,"BY BRIAN GRAY"
40 PRINT@452,"DO YOU NEED INSTRU
CTIONS"
42 I$=INKEY$:IF I$="" THEN42
44 IF I$="Y" THEN990
106 CLS
110 PRINT#-2,CHR$(35);
122 PRINT@230,"WHAT IS THE PRINC
IPAL OF THE LOAN"
132 INPUT A
134 CLS
152 GOSUB622
162 PRINT@227,"WHAT IS THE INTER
EST RATE"
172 INPUT B
174 CLS
192 GOSUB622
200 PRINT@226,"WHAT YEAR DID THE
LOAN START"
205 INPUT Y
206 CLS
207 GOSUB622
209 PRINT@227,"HOW MUCH ARE YOUR
PAYMENTS"
211 INPUT P
212 CLS
213 GOSUB622
215 PRINT"ARE YOUR PAYMENTS,"
216 PRINT" (1) Y
EARLY
217 PRINT" (2) Q
UARTLY"
219 PRINT" (3) M
ONTHLY"
220 INPUT R
221 CLS
222 GOSUB622
223 ON R GOTO 224,225,226
224 W=P/12*3:GOTO227
225 W=P:GOTO227
226 W=P*3
227 PRINT@226,"DO YOU WISH TO PA
Y EXTRA ON YOUR PAYM
ENTS"
228 INPUTA$
230 IF A$="NO" THEN GOTO 260
233 CLS
234 Q=0:T=0:Z=0:U=0:M=0:I=0:S=0:
A=0
235 PRINT@226," HOW MUCH EXTRA D
O YOU WISH TO PAY"
240 INPUT M
248 CLS
249 GOSUB622
250 A=F
251 Y=J
252 PRINT#-2,CHR$(10)
260 CLS
265 PRINT"THE FOLLOWING FIGURES
INDICATE WHAT IS LEFT OF THE PR
INCIPAL AFTER THE PAYMENT HAS
BEEN MADE"
326 PRINT#-2,"YOUR PRINCIPAL IS"
A "DOLLARS"
328 PRINT#-2,"YOUR INTEREST RATE
IS"B"PERCENT"
342 ON R GOTO 352,362,372
352 C=4:PRINT#-2,"YOUR PAYMENTS
ARE"P"DOLLARS PER YEAR":GOTO374
362 C=4:PRINT#-2,"YOUR PAYMENTS
ARE"P"DOLLARS PER QUARTER":GOTO3
74
372 C=4:PRINT#-2,"YOUR PAYMENTS
ARE"P"DOLLARS PER MONTH":GOTO374
374 IF M=0GOTO 382
376 PRINT#-2,"YOU ARE PAYING"M"D
OLLARS EXTRA PER PAYMENT"
382 PRINT#-2,CHR$(10)
392 PRINT#-2,"THE FOLLOWING FIGU
RES INDICATE THE REMAINING PRINC
IPAL AFTER THAT PAYMENT"
402 PRINT#-2,"HAS BEEN MADE"
412 PRINT#-2,CHR$(10)
414 PRINT#-2,"YEAR"TAB(15)"1ST Q
TR";TAB(30)"2ND QTR";TAB(45)"3RD
QTR";TAB(60)"4TH QTR"
417 J=Y
419 F=A
420 X=0
422 X=(A/100)*B
432 X=X/C
442 Q=Q+X
444 IFM>0GOTO452
446 V=Q
452 T=T+1
462 Z=W-X
472 A=A-Z-M
480 A=INT(A)
482 PRINTA
484 IF S=0 THEN GOSUB 700
486 S=S+15

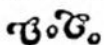
```

PROGRAMS

```

488 PRINT#-2,TAB(S)A;
490 IF S=60THEN S=0
492 IF A>W+M THEN GOTO 420
512 PRINT#-2,CHR$(10)
522 PRINT"YOU MADE"TPAYMENTS"
532 PRINT#-2,"YOU MADE"TPAYMENT
S"
542 GOSUB622
552 PRINT"YOU PAYED"Q"DOLLARS IN
INTEREST"
562 PRINT#-2,"YOU PAYED"Q"DOLLAR
S IN INTEREST"
572 GOSUB622
574 IF M=0 GOTO 582
576 U=T*M
577 I=V-Q
578 PRINT"YOU PAYED"U"DOLLARS EX
TRA TO SAVE" I"IN INTEREST"
580 PRINT#-2,"YOU PAYED"U"DOLLAR
S EXTRA TO SAVE" I"IN INTEREST"
582 S=T/C
592 PRINT"IT TOOK"S"YEAR TO PAY
OF YOUR DEBT"
602 PRINT#-2,"IT TOOK"S"YEARS TO
PAY OF YOUR DEBT"
603 PRINT
604 PRINT"DO YOU WISH TO MAKE AN
OTHER CALCULATION"
605 PRINT
606 INPUT L$
607 PRINT#-2,CHR$(10)
608 IF L$="YES" THEN GOTO233
610 PRINT"GOOD BYE AND GOOD SAVI
NG"
612 END
622 FOR X=0TO300:NEXT
632 PRINT
642 RETURN
700 PRINT#-2
705 PRINT#-2,Y;
710 Y=Y+1
720 RETURN
990 CLS
1000 PRINT@0,"THIS IS A PROGRAM
TO HELP IN THEPLANNING OF THE RE
PAYMENTS OF A HOUSE LOAN"
1020 PRINT"
THE PRINCIPAL OF THIS
PROGRAM ISTO SHOW YOU HOW MUCH
YOU CAN SAVE BY PAYING EXTRA
EACH PAYMENT.
1030 PRINT"
FIRST RUN THE PROGRAM
WITHOUT EXTRA PAYMENTS THEN V
ITH A RANGE OF EXTRA PAYMENTS"
1040 PRINT"
<INKEY>"
1050 I$=INKEY$:IFI$=""GOTO1050
1060 CLS
1070 PRINT@0,"THE PROGRAM WILL A
CCEPT MONTHLY,QUARTERLY AND YEAR
LY REPAYMENTS.BUT THE RESULTS AR
E PRODUCED FOR QUARTERLY REPAYME
NTS FOR SIMPLICITY"
1080 PRINT
1090 PRINT" A PRINTER WILL PRO
DUCE THE RESULTS ON 2400 BAUD
RATE.THE PROGRAM WILL RUN OK W
ITHOUT A PRINTER BUT WILL BE A
BIT SLOW"
2000 PRINT
2010 PRINT" <INKEY>"
2020 I$=INKEY$:IF I$=""THEN 2020
2030 GOTO106

```



CONVERSION TABLES

by L. W. Thurbon

16K CB

Some of you will already have these conversions. I doubt that all of you will have all of the conversions in this chart as some are quite uncommon as you will see. Just type in the program and run but take special attention of the prompts at the bottom.

The Listing:

```

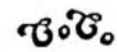
0 GOTO20
3 SAVE"LESCHART:3":END
10 ' LES'S BENCHTOP CONVERSION
TABLE. BY L. W. THURBON.
PUBLIC DOMAIN SOFTWARE.
COURTESY PIXEL SOFTWARE.
20 CLS
30 PRINT" 1 INCH = 25.454 MILLIM
ETERS."
40 PRINT" 1 CENTERMETRE = 0.3937
INCHS"
50 PRINT" 1 FOOT = 0.3048 METRES
.
60 PRINT" 1 METRE = 3.280 FEET.
70 PRINT" 1 METRE = 39.36 INCHES
.
80 PRINT" 1 MILE = 1.60934 KILOM
ETRES."
90 PRINT" 1 KILOMETRE = 0.621371
19 MILES"
100 PRINT" 1 MILE = 0.8689 NAUTI
CAL MILES"
110 PRINT" 1 NAUTICAL MILE = 1.1
5 MILES."
120 PRINT" 1 ACRE = 43560 SQUARE
FEET."
130 PRINT" SPEED OF SOUND = 1127
FEET PER SECOND AT 20 DEG. CEL
SIUS."
140 PRINT" 1 ATMOSPHERE = 763 MM
MERCURY."
150 PRINT" 1 ATMOSPHERE = 10135
MILLIBARS"
160 PRINT" 1 ATMOSPHERE=29.92 IN
S MERCURY"
170 PRINT@484,"press any key for
more";
180 A$=INKEY$:IFA$=""THEN180
190 CLS
200 PRINT" 1 INCH MERCURY=33.803
MILLIBARS"
210 PRINT@32," 1 IMP GALLON = 4.
456 LITRES."
220 PRINT" 1 U.S. GALL = 0.8328
IMP GALLS"
230 PRINT" 1 IMP GALL = 1.201 U.
S. GALLS."

```

```

240 PRINT" 1 LITRE = 1.75976 PIN
TS.
250 PRINT" 1 CORD = 4 * 4 * 8 FE
ET
260 PRINT" 1 POUND PER SQUARE IN
CH = 6.895 KILOPASCALS."
270 PRINT" 1 MILLIMETRE = 1000 M
ICRONS."
280 PRINT" 1 SQ MILE = 27878400
SQ FEET"
290 PRINT" 1 KILOGRAM = 2.204622
POUNDS."
300 PRINT" 1 DEG LATITUDE = 4 MI
NUTES TIME"
310 PRINT@384," 1 CUBIC FOOT = 6
.24 IMP GALLS."
320 PRINT" 1 CUBIC FOOT = 27.805
LITRES."
330 PRINT" 1 KM/LTR = 2.76883 MI
LES/GALL."
340 PRINT@484,"press ^ to read a
gain";
350 B$=INKEY$:IFB$="" THEN350
360 IFB$="^" THEN380
370 IFB$("<")" THEN450
380 CLS0:PRINT@32," OVER AND OVE
R AND OVER AGAIN ";:PRINT@64," I
HATS ALL YOU EVER WANT ";:P
RINT@128," JUST OVER AND OVER AG
AIN ";
390 PRINT@192," DON'T YOU THINK
I GET TIRED OF ";:PRINT@224," D
OING IT OVER AND OVER AGAIN ?"
400 PRINT@484,"press ^ to read a
gain";
410 C$=INKEY$:IFC$="" THEN410
420 IFC$("<")" THEN440
430 CLS:PRINT@232,"ohh no not ag
ain";:PRINT@293,"ok ok don't get
uptight";:PRINT@355,"i'm doing
it i'm doing it!";:FORX=1TO5000
:NEXTX:GOTO10
440 CLS0:PRINT@228," thank heave
ns for that ";:FORZ=1TO3000:NEXT
450 CLS:PRINT" PIXELSOFT BASIC 2
5.0 LICENCED TO STARBURST COMP
UTERS 1986BC.
460 END

```





QUIZZER

by Justin Lipton

16K CB

I OFTEN FIND THE BEST way to study for a test or exam is to write out some questions and answers and have someone ask them to you. But why waste somebody's time when you have a CoCo. That's why 'Quizzer' was made. The computer will ask you whether you want to load any data from disk or cassette. If not, you then proceed to enter your questions and answers. Pressing 'Q' will end the program, while pressing 'S' will save the data to either disk or tape for further use.

The Listing:

```

0 GOTO10
1 '***** QUIZZER *****'
2 '***** JUSTIN LIPTON *****'
3 SAVE"86B:3":END
10 CLEAR 500
20 DIM A$(100),B$(100):Q=0:R=0
30 CLS:PRINT:INPUT"INPUT DATA FROM A DEVICE";G$:IF G$="YES" OR G$="Y" THEN 300
40 CLS:INPUT"HOW MANY QUESTIONS";I
50 FOR B=1 TO I
60 INPUT"QUESTION";Q$(B)
70 INPUT"ANSWER";A$(B)
80 NEXT B
90 C=RND(1)
100 Q=Q+1
110 CLS
120 PRINT:PRINT:PRINT:PRINT:PRINT
130 PRINT Q$(C);:INPUT D$
140 IF D$="Q" THEN CLS:END
150 IF D$="S" THEN 200
160 IF D$=A$(C) THEN PRINT TAB(12)"CORRECT":R=R+1:ELSE PRINT TAB(13)"WRONG":PRINT:P=(32-LEN(A$(C)))/2:PRINT @ 256+P,A$(C)
170 PRINT:PRINT"YOU NOW HAVE"R"OUT OF"Q;FIX(R/Q*100)"%"
180 FOR T=1 TO 460:NEXT T:GOTO 90
200 CLS:PRINT:PRINT:PRINT"SAVE TO-":PRINT"1) TAPE"
210 PRINT"2) DISK"
220 INPUT S
230 IF S=1 THEN D=-1 ELSE D=1
240 OPEN"O",#D,"QUIZZER"
250 FOR O =1 TO I
260 PRINT # D,Q$(O)
270 PRINT # D,A$(O)
280 NEXT O
290 CLOSE #D:CLS:GOTO 90
300 I=0:INPUT" (1) TAPE OR (2) DISK";S
310 IF S=1 THEN D=-1 ELSE D=1
320 OPEN "I",#D,"QUIZZER"
330 IF D=-1 THEN D=-1:IF EOF(D) THEN CLOSE#D:GOTO 90
340 IF D=1 THEN D=1:IF EOF(D) =-1 THEN CLOSE #1:GOTO 90
350 INPUT #D,Q$(1)
360 INPUT #D,A$(1)
370 I=I+1:GOTO 330

```

☺☺



'SUPERDAG'

by Martin Eade

32K ECB

ADVENTURE

AS SAM TRUMPY, alias SuperDag you must report to HQ as the hero, SuperDag. Scattered around the house are pieces of your equipment: goggles, boots, cape and costume. Once you have found these, you must find a place to transform into -- tada! SuperDag! But the problem is no-one must see you transform.

After all that, you have to find the secret entrance and report for duty.

Good Luck, SuperDag.

Some routines used for this program were taken from "Sword Quest" by Andrew Hart.

Due to the extravagant length of this program, we will not be listing it in the pages of this extravagant magazine. Instead, it will be on the evermore extravagant CoCoOz for this month - ed)

UFO MAZE

by Justin Lipton

16K ECB
GAME

IN UFO MAZE, your ship is caught in a rocky cavern and you must escape through a tunnel in the bottom right of the screen. You have a flashing force field around you that must not touch the rocks or you will lose one of your 6 ships. In the second screen there are barriers that must be got through as well as avoiding the rocks. Good Luck.

The Listing:

```
0 GOTO5
1 ***** UFO MAZE *****
2 ***** JUSTIN LIPTON *****
3 SAVE"107:3":END
5 CLS:PRINT @ 262,"PLEASE WAIT.
.."
10 DIM Z(28,28):MN=6:SC=1:PM=10:
SO=0:HS=100:RS=0
20 PMODE 4,1:PCLS:
30 CIRCLE(100,100),11,,.6
40 LINE(90,98)-(110,98),PSET:LIN
E(90,102)-(110,102),PSET
50 PAINT(100,105),.5:PAINT(100,9
5),.5
60 FOR A=90 TO 110 STEP 4:LINE(A
,98)-(A,102),PSET:NEXT A
70 GET(86,86)-(114,114),Z,G
80 PCLS
90 DRAW"BM 0,10;R10F5E2F8E6R7U4E
5F9R15D3F6E7D3F9G3F5E6F4E7U5F4E8
R9F5E6R10E8F10R12D4E5F7R8E6R6E9F
12R10U6F8R5":PAINT(1,1),.5
100 DRAW"BM 0,0;D9R5F8G4R6D6F5G6
D5F7G9D9R10F5G10D6R10F10G6F3G8D9
L4F5G2R8G10F6G3F9D8R4G5F8G10":PA
INT(10,190),.5
110 DRAW"EM0,193;R20E9F3R8E6D5F3
E9F4R10E10F12R15U6E8F7R10E10DF4R
5F7R9D5E9F10E6R10F4E6U6F8E4R7F3E
7R10E6":PAINT(100,190),.5
120 DRAW"BM 255,135;L5U6L10E7H8U
6L7E3H7E10U5E4R3H5U6E3U8E5H7L5E8
U6R3H4E8U5":PAINT(250,50),.5
130 DRAW"BM 23,70;F8E3R5E5F3R3E3
F3D6E4R5F5E3D5E4R6D4E3F4E3R7F3E5
D6E3R8E3F5R4U3F3E5F3R7U3E3F4R5D4
E3F3R5E3D3F4E5R6D6H3G3D3L7H2G4D3
L8H5G2H2L5D2L3U2G4U4G3H4L8D3H3L4
D2H3G4L7H4G8H4L6U3G3L5H4G6U4L6U3
```

```
G5H5L7G8H6L8D4H5":PAINT(48,75),.
5
140 A$="E4F5E6D4F4G10R4G5H4L3E4H
5U5":DRAW"BM 222,133;S3A3"+A$:PA
INT(222,123),.5:DRAW"BM 165,140;
S3A3"+A$:PAINT(165,130),.5:DRAW"
BM 80,145;S4A2"+A$:PAINT(77,145)
,.5
143 GOTO 400
145 FOR X=10 TO 50 STEP 8:CIRCL
E(X,4),4,0,.6:NEXT X
159 SC=1:TIMER=0
160 SCREEN 1,1:A=25:B=25
170 PUT(A,B)-(A+28,B+28),Z,PSET
180 H=JOYSTK(0):V=JOYSTK(1)
190 IF H=0 THEN A=A-3
200 IF H=63 THEN A=A+3
210 IF V=0 THEN B=B-3
220 IF V=63 THEN B=B+3
230 B=B+2
240 IF A>222 THEN PLAY"T2P4V15L1
604CEGL805CL1604AL405C":SC=SC+1:
LINE(A,B)-(A+28,B+28),PRESET,BF:
GOTO 160
250 IF PPOINT(A+14,B-1)=5 THEN 3
40
255 PSET(A+14,B,5)
260 IF PPOINT(A-1,B+14)=5 THEN 3
40
265 PSET(A,B+14,5)
270 IF PPOINT(A+14,B+29)=5 THEN
340
275 PSET(A+14,B+28,5)
280 IF PPOINT(A+29,B+14)=5 THEN
340
285 PSET(A+28,B+14,5)
290 IF PPOINT(A-1,B-1)=5 THEN 34
0
295 PSET(A,B,5)
300 IF PPOINT(A+29,B+29)=5 THEN
340
305 PSET(A+28,B+28,5)
310 IF PPOINT(A-1,B+29)=5 THEN 3
40
315 PSET(A,B+28,5)
320 IF PPOINT(A+29,B-1)=5 THEN 3
40
```

```
321 PSET(A+28,B,5)
325 IF SC>1 AND OF=0 THENLINE(10
0,38)-(103,75),PSET,BF:LINE(197,
90)-(220,93),PSET,BF:LINE(230,14
0)-(233,170),PSET,BF
326 IF SC>1 AND RND(SC+1)=1 TH
EN OF=1:LINE(100,38)-(103,75),P
RESET,BF:LINE(197,90)-(220,93),P
RESET,BF:LINE(230,140)-(233,170)
,PRESET,BF:ELSE OF=0
330 GOTO 170
340 MN=MN-1:SOUND 1,1:FOR F=1TO
10:SCREEN 1,0:FOR T=1 TO 50:NEXT
T:SCREEN 1,1:FOR T=1 TO 50:NEXT
T:NEXT F:LINE(A,B)-(A+28,B+28),
PRESET,BF
360 PLAY"T2L2001V31BV28AV24GV20F
V16DV10C#V5C"
365 CIRCLE(PM,4),4,5,.6:PM=PM+8
370 IF MN=0 THEN RS=1:SO=INT(TI
MER/10)*EC:IF SO>HS THEN HS=SO:L
INE(A,B)-(A+28,B+28),PRESET,BF:G
OTO 400
375 IF RS=1 THEN GOTO 400
380 GOTO 160
400 CLSRND(7)+1:FOR A=0 TO 31:B=
RND(9)-1:SET(63-A,0,B):SET(A,0,B
):SET(0,A,B):SET(63-A,31,B):SET(
63,A,B):SET(A,31,B):SET(63-A,31,
B):NEXT A
410 PRINT @ 108,"UFO MAZE";:PRIN
T @ 168,"LAST SCORE "SO;:PRINT @
200,"HIGH SCORE "HS;
420 PRINT @ 327,"PRESS FIRE TO B
EGIN";
425 RS=0
426 LINE(100,38)-(103,75),PRESET
,BF:LINE(197,90)-(220,93),PRESET
,BF:LINE(230,140)-(233,170),PRES
ET,BF
430 IF PEEK(65280)=254 OR PEEK(6
5280)=126 THEN MN=6:PM=10:GOTO
145:ELSE 430
```




SHOPPING LIST

by Grahame Pollock
16K ECB

The Listing:

AT LAST, I've done it! I've finally been able to convince Sandra (my wife) that this bucket of wires and silicon is worth something. And it was THIS program that did it! She has now given me a firm promise not to try to throw my CoCo out of the window anymore. (The only thing that saved it last time was that it was still plugged in).

You've probably seen a few shopping list type programs before, but this one is different. We use it every week to make up our grocery list, because it's so easy to select items and update prices. One of the most boring tasks in our household every week was the one of writing out the grocery list. Now with the help of CoCo the task has become much easier and a good deal less boring.

All of your possible grocery items are displayed on screen. To select the items for your list, you simply use the up and down arrow keys until your cursor is positioned in front of the item you want. You then select the number of these items that you want and then go on to select further items. Only those items with numbers other than "0" in front of them will be printed on the final list.

At any point in your list, you may wish to:-

- insert a new item
- edit an existing item
- alter the price

Once you have finished selecting your groceries, you should press "M" to return to the main menu. From there you can print out your list or save your entire file to tape (3 times).

If you want a separate list for vegetables, then you must add them after a dummy item called "VEGES".

If you want to CSAVE this program then just break and type GOTO 3 and it will be CAVED 3 times.

Here's hoping that SHOPPING LIST will save YOUR CoCo from being thrown out the window.

```

0 PMODE0:PCLEAR1
1 CLEAR2500:IT=500
2 GOTO10
3 FORSV=1TO3:FORT=1TO3000:NEXTT:
CSAVE"SHOPLIST":PRINTSV:NEXTSV:EN
ND
10 DIMN(IT),IT$(IT),P(IT)
20 CLS:PRINT"SHOPPING LIST BY G.
POLLOCK 1986"
30 PRINT:PRINT"1. GROCERIES"
50 PRINT:PRINT"2. LOAD FILE"
60 PRINT:PRINT"3. SAVE FILE"
70 PRINT:PRINT"4. PRINT LIST"
80 IS=INKEY$:IF IS=""THEN80
90 I=VAL (I$)
100 ON I GOTO 200,1800,1500,2000
110 GOTO20
150 IFP=INT(P)THEN190
160 PR$=STR$(P-INT(P))
170 IF LEN(PR$)<3THEN PR$=PR$+"0"
":GOTO170
180 P$=STR$(INT(P))+PR$
190 RETURN
200 ' GROCERY LIST
210 CLS:PRINT"EDIT,PRICE,MENU,IN
SERT,DELETE,ARROWS,NUMBERS"
220 FOR G =GS TO GS+12
225 PRINTN(G);IT$(G);
227 PRINTTAB(12)"";
230 PRINTUSING"$$$.#";P(G)
245 NEXTG
250 PN=(GR*32)+64
260 PRINT@PN,CHR$(128);
270 I$=INKEY$
280 IFI$="E"THEN400
290 IFI$="P"THEN500
330 IFI$="M"THEN20
340 IFI$="I"THEN800
350 IFI$="D"THEN900
360 IFPEEK(341)=247THENSOUND100,
1:POKE341,255:GOTO1000
370 IFPEEK(342)=247THENSOUND100,
1:POKE342,255:GOTO1100
395 IFI$=""THEN270
397 IFI$<="9"ANDI$>="0"THEN1400E
LSE270
400 'EDIT
410 PRINT" ";:INPUTIM$
430 IT$(GS+GR)=LEFT$(IM$,18)
440 GOTO520
500 'PRICE INPUT
510 PRINT" ";IT$(GS+GR);
520 PRINT@PN+21,"";:INPUT"$";P(
GS+GR)
530 GOTO210
600 'NEXT SCREEN
610 GS=GS+13
620 IF GS>IT-13THENG=IT-13

```

```

630 GR=0:GOTO210
700 'BACK SCREEN
710 GS=GS-13
720 IF GS<0THENG=0
730 GR=12:GOTO210
800 'INSERT
810 IF GM+1=IT THEN210
820 FOR I=GM TO GS+GR STEP-1
830 IT$(I+1)=IT$(I):P(I+1)=P(I):
N(I+1)=N(I)
840 NEXTI
850 GM=GM+1
860 GOTO400
900 'DELETE
910 FOR I=GS+GR TO GM
920 IT$(I)=IT$(I+1):P(I)=P(I+1):
N(I)=N(I+1)
930 NEXTI
940 GM=GM-1
950 GOTO210
1000 'UP
1010 IFGR<=0THEN700
1020 GR=GR-1:PRINTCHR$(8);:GOTO2
50
1100 'DOWN
1110 IFGR>GM+1THEN210
1115 IF GR >12 THEN 600
1120 GR=GR+1:PRINTCHR$(8);:GOTO2
50
1400 '# OF ITEMS
1410 I2$=I$:PRINTI$;
1420 I$=INKEY$:IFI$=""THEN1420
1430 IFI$="9"THENN(GS+GR)=VAL(12
$):GOTO250
1440 I3$=12$+I$
1445 PRINTI$;
1450 N(GS+GR)=VAL(I3$):GOTO250
1500 'SAVE
1510 CLS:INPUT"PRESS RECORD AND
ENTER";EN$
1515 FORSV=1TO3:FORT=1TO3000:NEX
TT
1520 OPEN"O",#-1,"LIST"
1530 FORJ=0TOGM
1540 PRINT#-1,IT$(J),P(J)
1550 NEXTJ
1560 CLOSE#-1
1565 PRINTSV:NEXTSV
1570 GOTO20
1800 CLS:PRINT"PRESS PLAY":'LOAD
1810 OPEN"1",#-1,"LIST"
1820 J=0
1830 IF EOF(-1)THEN1860
1840 INPUT#-1,IT$(J),P(J)
1850 J=J+1:GOTO1830
1860 CLOSE#-1:GM=J
1870 GOTO200
2000 'PRINTOUT
2005 TP=0
2010 FORJ=0TOGM
2025 IF IT$(J)="VEGES"THEN PRINT
#-2,"":PRINT#-2,"TOTAL=$";TP:PRI
NT#-2,"VEGES":TP=0
2027 IFN(J)=0THEN2080
2030 PRINT#-2,N(J);IT$(J);
2040 PRINT#-2,TAB(12)"";
2050 PRINT#-2,USING"$$$.#";(N(
J))*P(J))
2060 TP=TP+N(J)*P(J)
2080 NEXTJ
2085 PRINT#-2,"TOTAL=$";TP
2090 GOTO20

```

CoCo

ARE YOU BURNING UP YOUR FUEL?

FUEL ECONOMY



by Allan Thompson

16K ECB

UTILITY

FUELECON IS A program made to measure the economy of your car. When RUN, you will be presented with a menu (after being shown the credits). Pressing 1 or 2 will show how your economic your car is. If you press 1 you will be working with Miles, and if you pressed 2 you will be working with kilometers.

Lets say you want to work in kilometers. First enter how many kilometers you dare to go until your fuel gauge reads zero. Enter your response (usually 350 - 450k for an average car). It will then ask you how many litres your fuel tank can hold (usually 40l to 55l, for an average car). After pressing ENTER, you will be asked how much petrol is per liter

(nowadays about 45.9 to 55.9, depending your area).

Tadah! You are shown how many kilometers you travel in one litre, how much that one kilometer will cost you, and how much it will cost to go 'x' amount of kilometers.

Pressing 3 will ask you the same set of questions asked of you above. The difference is that it asks you the distance to be travelled, ie how far do you want to travel. Enter your distance (in kilometers) and it will report on how much that trip will cost you.

All in all, a very interesting program. Have fun with it.

The Listing:

```

0 '$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
1 '$ FUEL ECONOMY CALCULATOR $
2 '$ & TRIP COSTING UTILITY $
3 '$ BY ALLAN THOMPSON $
4 '$ (C) APRIL 1986 $
5 '$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
6 POKE359,57:SCREEN0,1:CLS3:PRIN
T@131,STRING$(27,"$");:PRINT@163
,"$";:PRINT@189,"$";:PRINT@195,"
$";:PRINT@197,"FUEL ECONOMY CALC
ULATOR";:PRINT@221,"$";
7 PRINT@227,"$";:PRINT@230,"+TRI
P COSTING UTILITY";:PRINT@253,"$
";:PRINT@259,"$";:PRINT@264,"BY
ALLAN THOMPSON";:PRINT@285,"$";
8 PRINT@291,"$";:PRINT@298,"29 A
PRIL, 1986";:PRINT@317,"$";:PRIN
T@323,"$";:PRINT@349,"$";:PRINT@
355,STRING$(27,"$");:FORT=1TO500
0:NEXTI
9 CLS:GOTO20
10 KILL"FUELECON/BAS":SAVE"FUELE
CON/BAS":END
20 X$=STRING$(32,36)
21 Y$=" FUEL ECONOMY CALCULA
TOR "
22 Z$=" TRIP COSTING UTILIT
Y "
23 U=220:V=240:W=245
24 POKE359,126:CLS:PRINT@35,STRI
NG$(26,"$");:FORG=92TO444STEP32:
PRINT@G,"$";:NEXTG:FORGG=67TO419
STEP32:PRINT@GG,"$";:NEXTGG:PRIN
T@451,STRING$(26,"$");
25 GOSUB29:SOUNDW,1:SOUNDV,1:SOV
NDU,1:PRINT@78,"MENU";:PRINT@134
,"<1> ECONOMY IN MPG";:PRINT@198
,"<2> ECONOMY IN KM/L";:PRINT@26
2,"<3> COSTING A TRIP";:PRINT@32
6,"<4> EXIT FROM PROG";:PRINT@3
95,"YOUR CHOICE";
26 GOTO28
27 FORJ=1TO15:POKE140,240:EXEC43
345:NEXTJ:RETURN
28 I$=INKEY$:IF I$="" THEN28 ELS
EIF I$="1" OR I$="2" OR I$="3" O
R I$="4" THEN 31 ELSE 30
29 FORS=242TO239STEP-3:SOUNDS,1:
NEXTS:SOUND245,1:RETURN
30 GOSUB27:GOTO5
31 IF I$="1"THEN35
32 IF I$="2"THEN42
33 IF I$="3"THEN62
34 IF I$="4"THEN63
35 POKE359,57:SCREEN0,1:SOUNDU,1
:CLS:PRINT X$:PRINT Y$:PRINT X
$:PRINT:INPUT" ENTER KILOMETER
S ";K:SOUNDV,1:INPUT" ENTER LI
TRES ";L:GOSUB29
36 X=1.609:Y=4.546
37 M=K/X:PRINT USING" ###.##";M
;:PRINT" MILES";:PRINT:G=L/Y:PR
INT USING" ###.##";G;:PRINT" G
ALLONS";:PRINT
38 MPG=M/G
39 PRINT USING" ###.##";MPG;:P
RINT" MILES PER GALLON";
40 PRINT:PRINT:PRINT X$:PRINT:PR
INT" PRESS <ENTER> TO CONTINUE
";
41 !F INKEY$=""THEN41 ELSE24
42 POKE359,57:SCREEN0,1:IF I$="2
" THEN44
43 IF I$="3" THEN45
44 SOUNDU,1:CLS:PRINT X$:PRINT
Y$:PRINT X$;:GOTO46
45 SOUNDU,1:CLS:PRINT X$;:PRINT
Z$;:SOUNDU,1:PRINT X$;:GOTO46
46 SOUNDU,1:INPUT" ENTER KILOME
TERS ";K:SOUNDV,1:INPUT" ENTER
LITRES ";L:SOUNDV,1:INPUT"
ENTER CENTS/LITRE";C:GOSUB29
47 KPL=K/L:CE=(L*C/K)/100:CX=L*C
/K:KXL=(K*100)/L
48 PRINT USING" ###.###";KPL;
:PRINT" KILOMETERS/LTR ";
49 PRINT USING" ###.###"
;CE;:PRINT" PER KILOMETER";
50 PRINT USING" ###.###
";CX;:PRINT" PER 100 K/MRS";
51 PRINT USING" ###.###
";KXL;:PRINT" KMS/100 LITRES";
52 IF I$="3"THEN56 ELSE 53
53 PRINT" ";:PRINT X$:PRINT
" PRESS <ENTER> TO CONTINUE
";
54 E$=INKEY$:IF E$="" THEN54 ELS
E 55
55 IF E$=CHR$(13) THEN 24
56 INPUT" ENTER DISTANCE T
O BE TRAVELLED IN KILOMETERS
";KK:SOUNDU,1:SOUND V,1
57 L=KK/KPL:TR=L*C/100
58 PRINT USING" ###.##";TR;:P
RINT" = COST FOR TRIP";
59 PRINT" ";:PRINT X$
60 PRINT" PRESS <M>ENU"
;
61 M$=INKEY$:IF M$="" THEN61 ELS
E RETURN
62 GOSUB42:GOTO24
63 END
64 SAVE"100:3":END
65
66

```

N I B B L E S & B I T S

16KECB GAME

by George Aftamonow

YOU DON'T have to go to EPCOT in Disney World to enjoy playing games on their computers. Our great CoCo plays the same thing. 'NIBBLES and BITS' will test your memory of 0's and 1's.

A grid of sixteen 0's and 1's will appear on the screen for you to memorize. The screen will then clear.

The Listing:

```

0 ***** NIBBLES & BITS *****
* ***** GEORGE AFTAMONOW *****
*
2 LA$="R2HU2E5R2F2NG3D2G3NU2GNL3
BR3NH2R3"
4 LE$="R5EHU3E3R3D4NL6BD4NL4R3"
6 LI$="R4E8BE2NEBG2G4D2F2R4"
8 LG$="R2NF2U3E3R5D4NG4D6G7L2HU
E6R6"
10 LM$="E2U2E2U2R4D2G2D2G2BR4E2U
2E2U2NL4R4D2G2D2G2R5"
12 LN$="R2U2E2U2R4D2G2D2G2BR4E2
U2E2U2NL4BD8R2"
14 LO$="R2E2NF2U3E3R2NR3D3FR2NU4
DG3NL3BR5"
15 LP$="R2NE9BD7E2UE2UE2NFU3EUEU
R4FD6G2NL4R3"
16 LR$="R3E2U3E3R4FD2G2DF2R4"
17 LS$="R2E8NEDFRFD2G3H2EBF3NLR2
"
18 LZ$="BU8BR4R8NG8BD4NL4D6G6L2H
UE6R6"
20 LC$="R3E3U2E3R3FDEG6BUNU2FR6"
22 LH$="R3E5U2NR5UE5BD6FD3G3R5"
24 LB$="R3E3NF3E2U2NR5UE5BD6FD4G
2NL3R3"
26 LY$="R3E3NF3U2E3BR6G3D3G2NLD2
G2D2G2L3U3E3R2E2R4"
28 LF$="NR2BD5E3U3NGUNF2UNRU3E4R
3DG6NLBD3NL3R5"
30 LT$="R2ENFE2U2EU2NL2NR4NE3BD8
NL2R2"
32 LV$="R3NR6U2E2U2E2BR6G2D2G2D2
R6U2E2U2E2R2BD8"
34 LL$="R3E8U3E3L4G3D9F2R3"
36 PMODE3, 1: SCREEN1, 1: PCLS1
38 CN$="R4NE5U3NE5L4ND3E8R4D5E5R
4ND3G8ND3L4NU5D3R4NE8BR8"
40 CI$="NU3R4U3L4E8R4NG8D3G8BR8"
42 CB$="NU3R11U3NE4L11E8R8ND3G4N
R3BHE2L3ND2G2R3BDDGL5E2ND2R4BR4N
ED3G4BR8"
44 CL$="NU3R10U3L10E8R3ND3G6R3NE
3R4NG2D3G2BR6"
46 CE$="NU3R11U3L11E8R9ND3G2D3NE
2L4NDU2L3ENR6BD3NE2L3GR4NUR4NG2D
3G2BR8"
48 CT$="BR6NU3R3U3NE6L3E3NLE3L4N
D3E2R11NG2D3G2U3L4D3NRAG6BR14"
50 CS$="NU3R10U3NE3L10E2R3NU3R3E
2L4HE3R9ND3G2L6GR3F2R2NU3NE2L2D3
G3"
52 AD$="NU2R3U2L3ENE2L2U2NR4E2R4
E2R3ND2G2R4ND2G2NL4D2NE2L4NG3U2G
3"
53 PCLS4
54 DRAW"BM4, 40S8C3"+CN$+CI$
56 DRAW CB$+CB$
58 DRAW CL$+CE$
60 DRAW CS$
62 DRAW"BM100, 70"+AD$
64 DRAW"BM40, 100"+CB$+CI$
66 DRAW CT$+CS$
68 PAINT(10, 10), 2, 3
70 DRAW"BM100, 130S4C1; XLB$; XLY$;
"
72 DRAW"BM20, 150; XLG$; XLE$; XLO$;
XLR$; XLG$; XLE$;"
74 DRAW"BM130, 150E3NL4NR4U3"
76 DRAW"BM150, 150; XLE$; XLL$; XLL$;
; XLE$; XLN$;"
78 DRAW"BM60, 180; XLA$; XLF$; XLT$;
XLA$; XLM$; XLO$; XLN$; XLO$; XLW$;"
80 NN$="NR4HR4U5HUHUHU2NG2H4E4D2
G2DF2NDU7EU2EUE2URER4FRDF2DFD2F5
G4NF2UE2UH2NU2D8GDGD5R4GL4U4LF
L4HLND4BU9F2R4E2BH4NDU2BE2NR2BL4
GHENEBHR3BR2R3"
82 PLAY" T302L8DDL4C+DF+DF+AL2AL1
G"
84 BB$="HUENRDR2NHFR2EU21RENEL2U
L3UE3UR5NFRF5G6D2E7UH6LGDBG2GHE
NFBR4D27FR2ENER2UNLFDGL7H2NU5G2L
7"
86 QM$="NRURNDU2LU3EREU2HL2GLUE
R3F2D2G2D3"
88 COLOR3, 2: PCLS2: SCREEN1, 0: DRAW
"BM50, 120S8"+NN$
90 DRAW"BM150, 120"+BB$
92 FORZ=1TO3
94 DRAW"BM165, 50C3"+QM$: PLAY" T15
004GA"
95 PAINT(166, 88), 3
96 FORQ=1TO100: NEXTQ
98 DRAW"BM165, 50C2"+QM$: DRAW"BM7
5, 78C2FEHG": FORQ=1TO300: NEXTQ
99 DRAW"BM75, 78C3FEHG": NEXTZ
100 DIMA(16), B(16), Q$(16)
101 X=RND(-TIMER)
102 GOSUB1250
105 A0$="BR12BD11BRR3FD6GL3HU6EB
DR3D6L3U6BHBL12BU11": A1$="BR13BD
11BRR2D7FL4EU6LEBL14BU11": Q$="BR
12BD9BRR3F2D2G2LD3NLBD2GBU3U3ERE
U2HL2GLUEBL13BU9"
110 FORX=1TO16
120 B=RND(2)-1: A(X)=B: NEXTX
140 GOSUB1000: GOSUB1100
150 DRAW"BM25, 30S4XLM$; XLE$; XLM$;
; XLO$; XLR$; XLI$; XLZ$; XLE$; BM+15,
0XLN$; XLO$; XLW$;"
160 FORT=1TO3000: NEXTT
170 GOSUB1000: DRAW"BM37, 20XLC$; X
LH$; XLO$; XLO$; XLS$; XLE$; BM+5, -19
XA0$; BM+35, +19XLO$; XLR$; BM+4, -19
XA1$;"
390 FORZ=1TO16
400 X=RND(16)
410 IF B(X)=1 THEN 400ELSE B(X)=1
420 ON X GOTO430, 440, 450, 460, 470
, 480, 490, 500, 510, 520, 530, 540, 550
, 560, 570, 580
430 DRAW"BM60, 60C2"+Q$: GOTO600
440 DRAW"BM90, 60C2"+Q$: GOTO600
450 DRAW"BM120, 60C2"+Q$: GOTO600
460 DRAW"BM150, 60C2"+Q$: GOTO600
470 DRAW"BM60, 90C2"+Q$: GOTO600
480 DRAW"BM90, 90C2"+Q$: GOTO600
490 DRAW"BM120, 90C2"+Q$: GOTO600
500 DRAW"BM150, 90C2"+Q$: GOTO600
510 DRAW"BM60, 120C2"+Q$: GOTO600
520 DRAW"BM90, 120C2"+Q$: GOTO600
530 DRAW"BM120, 120C2"+Q$: GOTO600
540 DRAW"BM150, 120C2"+Q$: GOTO600
550 DRAW"BM60, 150C2"+Q$: GOTO600
560 DRAW"BM90, 150C2"+Q$: GOTO600
570 DRAW"BM120, 150C2"+Q$: GOTO600
580 DRAW"BM150, 150C2"+Q$: GOTO600
600 A$=INKEY$: IF A$=" " THEN 600
610 IF A$="0" OR A$="1" THEN 620EL
SE600
620 DRAW"C1"+Q$
630 IF A$="0" THEN DRAW"C4"+A0$ ELS
EDRAW"C4"+A1$
640 IF VAL(A$)=A(X) THEN C=C+1: Q$

```

PROGRAMS

```
(X)="C" ELSEQ$(X)="W"
650 NEXTZ
700 GOSUB1000:GOSUB1100
702 DRAW"BM46,30S8"
704 SC$=STR$(C):L=LEN(SC$)-1
708 FORX=2TOL+1
710 DRAWNB$(ASC(MID$(SC$,X,1))-4
8)
712 NEXTX
714 DRAW"BM+4,0S4XLC$:XLO$:XLR$:
XLR$:XLE$:XLC$:XLT$:"
720 IFC/16=INT(C/16) THENDRAW"BM
34,52XLP$:XLR$:XLE$:XLS$:XLS$:BM
+30,OXLE$:XLN$:XLT$:XLE$:XLR$:"
ELSE750
730 IF INKEY$(<CHR$(13) THEN730
740 FORX=1TO16:B(X)=0:Q$(X)="0":
NEXTX:GOTO110
750 DRAW"BM34,52XLA$:XLN$:XLO$:X
LT$:XLH$:XLE$:XLR$:BM+30,0XLT$:X
LR$:XLY$:BM+1,-21XQ$:"
755 A$=INKEY$:IFA$=" THEN755
760 IFA$="N" THEN800ELSEIFA$="Y" T
HEN770ELSE755
770 S=0:C=0:FORX=1TO16:B(X)=0:Q$
(X)="0":NEXTX:GOTO110
800 FORJJ=1TO2
810 PMODE4,1:SCREEN1,1:PCLS1:FOR
A=0TO2STEP2: DRAW"BM128,96COA=A;"
:FORW=0TO4STEP6:N=W/6+1:PLAY"L2
55V31N=N;":DRAW"E=W;F=W;G=W;H=W;
EL3R5":NEXTW,A
815 NEXTJJ
820 DRAW"A0BM108,128S8C4L8D4NR6D
4R8BR6U8F8NU8BR6U8R6F2D4G2L6"
825 FORVO=30TO1STEP-1:PLAY"V=VO;
":FORZO=5TO1STEP-2:FORZN=12TO1ST
EP-4:PLAY"L255O=ZO;Z=N;":NEXTZN,
ZO,VO
830 CLS:END
1000 SCREEN1,0:PMODE3,1:PCLS
1010 COLOR2,1
1020 Y1=0:X1=0:FORL=1TO5:Y1=Y1+3
0
1030 LINE(60,Y1+30)-(180,Y1+30),
PSET
1040 NEXTL
1050 FORL=1TO5:X1=X1+30
1060 LINE(X1+30,60)-(X1+30,180),
PSET
1070 NEXTL:RETURN
1100 DRAW"BM30,60S4":FORX=1TO4
1110 IFQ$(X)="W" THENDRAW"C4" ELS
EDRAW"C3"
1120 IFA(X)=0 THENDRAW"BM+30,+0"+
A0$ ELSEDRAW"BM+30,+0"+A1$
1125 NEXTX
1130 DRAW"BM30,90":FORX=5TO8
1140 IFQ$(X)="W" THENDRAW"C4" ELSE
DRAW"C3"
1150 IFA(X)=0 THENDRAW"BM+30,+0"+
A0$ ELSE DRAW"BM+30,+0"+A1$
1155 NEXTX
1160 DRAW"BM30,120"
1170 FORX=9TO12:IFQ$(X)="W" THEND
RAW"C4" ELSEDRAW"C3"
1180 IFA(X)=0 THENDRAW"BM+30,+0"+
A0$ ELSEDRAW"BM+30,+0"+A1$
1185 NEXTX
1190 DRAW"BM30,150":FORX=13TO16
1200 IFQ$(X)="W" THENDRAW"C4" ELSE
DRAW"C3"
1210 IFA(X)=0 THENDRAW"BM+30,+0"+
A0$ ELSEDRAW"BM+30,+0"+A1$
1215 NEXTX
1220 RETURN
1250 NB$(1)="C2NR4URNDU6NULERND8
```

BIRTHDAY



by Michael Hartmann
16KECB
APPLICATION

'BIRTHDAY' is a program I wrote nearly two years ago when I had just started computing. I found it hidden in my collection and have decided to send it in. On the appropriate day, 'BIRTHDAY' gives a thrill to any youngster when the computer wishes the child 'happy birthday!'

The Listing:

```
RD7NDRDC3BEHU6HLBD9BR6":NB$(2)="
C2NU3RNU4RNU4RNRNURNURUBU2BLNU5
LNULNULUBU3NLNURNURNURUFD3C3BRU3
H2L2BD9BR7"
1251 NB$(2)="C2NRU3ED4R5ULNDLND
LNDLNDL2UNL2UNL2NR3UNLNRNDRNDED2
ENLUNLUNLUNLHND2LNUNLRLNG2DNLRB
2C3RF2D4BD2NL4D2BR3"
1252 NB$(3)="C2NU2RNRNURNURNUR2E
NU3EUHNL2VEUHND3LND2LNDLNDNG2C3B
ER2F2DGD2FBD2BR3"
1253 NB$(4)="C2BR4NRU3NULNULNUL
ULU5RD4R3U2RD6C3BEU6LBG2LU4LBD9B
R8"
1254 NB$(5)="C2BRNHNRNURNURNUR
U4EU2HLNDLNDLNDLNDU2NURNURNUR
UL5D4BRBU5C3R5D2BGNL3F2D2BD2BR3"
1255 NB$(6)="C2BRNHNRNURNURNUR
UEU3HND4LNDLNDLNDLND4U2NURNURNUR
NURNURHL4GD6C3BR7BUU2H2L3BU3R3F2
BD7BR3"
1256 NB$(7)="C2BRNRU3END4END2UND
2ENDNULNULNULNULUR6D2C3BRNG3
U2HL4BD9BR8"
1257 NB$(8)="C2NU4RNU8RNU8RNRNU
8RNU8RU3NUL3U2BU2UC3BHR3FD3FD3BD
BR3"
1258 NB$(9)="C2BRNHNRNURNURNUR
U8EU3NU3L2NDLNDLNDLNU4DHU3ERNDN
DRNDRFC3BRND6H2L4BD9BR9"
1259 NB$(0)="C2BUNU6FNU8RNU8RNR
NU8RNU8ENU6BL3BU6UC3BUNL2R2F2D6B
DR3"
1280 RETURN
```

```
0 *****
1 ***** BIRTHDAY *****
2 ***** BY M.J.HARTMANN *****
3 ***** MOUNT VIEW *****
4 ***** GUYRA NSW *****
5 *****
6 GOTO10
7 SAVE"BIRTHDAY:3":END
8 I$=INKEY$:IFI$="" THEN8
10 CLS
20 PRINT@106,"HELLO THERE!!
25 PRINT@137,"MY NAME IS COCO."
30 PRINT" AND WHAT MIGHT YOUR
NAME BE":LINEINPUT N$
40 PRINT" GREETINGS ";N$
50 PRINT:PRINTN$;"," WHAT IS TODA
Y'S DATE?":LINEINPUT DT$
60 PRINT:PRINT"WELL ";N$;"," YOU K
NOW WHAT THAT MEANS....."
65 FOR X=1 TO 2000:NEXTX
70 '
80 ' <<<= HAPPY BIRTHDAY =>>>
90 '
100 CLS(3):PRINT@128," HAPP
Y BIRTHDAY TO YOU"
110 PLAY "T801GGAGO2CO1B"
120 PRINT@192," HAPPY BIRTH
DAY TO YOU"
130 PLAY "O1GGAGO2DC"
140 PRINT@256," HAPPY BIRTHDAY
DEAR ";N$
150 PLAY "O1GGO2GECO2BA"
160 PRINT@320," HAPPY BIRTH
DAY TO YOU"
170 PLAY "O2FFECDC"
190 CLS0:GOTO190
```

CoCo.

CoCo.

PRINTER GRAPHICS

by Mal McLauchlan

16K ECB + DMP PRINTER

EVER SINCE I purchased my DMP-200 printer I have been experimenting with various ways of getting the maximum use from my investment. For example, I've used it to print out notices and programmes for various functions, to be photo-copied and handed out at the door.

To make such handouts look attractive, a few fancy borders work wonders. People tend to say "However did they do this!" A few of my creations were printed in "Australian CoCo", June '86, but this time I'll give more detail on how to design such patterns. In the process you will learn a whole lot more about the capabilities of your dot matrix printer. What I have to say applies directly to most of Tandy's DMP series, and in part to all dot matrix machines.

You will probably know that anything we print out is made up of tiny dots (you can see them clearly with a magnifying glass). The DMP-200 is capable of printing up to 7 dots in a vertical line (called a dot column). So that just the dots required can be specified in a programme, a numbering system is used, as follows:-

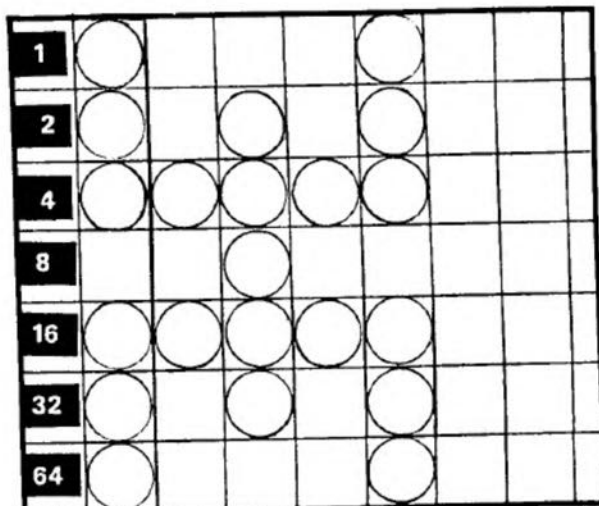
- 1 o If the printer is required to print just one
 - 2 o dot, at the top of the row, the printer is
 - 4 o told "PRINT#-2,CHR\$(129)". Confusing? Not
 - 8 o really, if we remember that the dot number
 - 16 o must be added to 128, so $128+1=129$. We can't
 - 32 o use CHR\$ numbers under 128, because we'd be
 - 64 o specifying letters of the alphabet etc.
- (e.g. CHR\$(65) is A. So for printer graphics, CHR\$(128) to CHR\$(255) are used. OK?

Now, one step further. If we want just the second from the top dot printed, we specify CHR\$(130) because $130=128+2$.

What if we want both the two top dots printed to make a tiny vertical bar? We add 1 and 2, then add 128 to make CHR\$(131). Now a giant leap - what if we want a full vertical bar of 7 dots? You're right. Add $1+2+4+8+16+32+64$. This gives 127, which when added to 128 gives the magical number in computer graphics -255. Hence PRINT#-2,CHR\$(255) gives a vertical bar 7 dots long. What will CHR\$(128) give us? You've guessed it - as $128=128+0$ then we get nothing except a vertical space (good for putting spaces between patterns).

If you have understood the above, you will have no difficulty in making up patterns on squared paper and programming them into CoCo (or your Telewriter - 64 output). Following is an example of one pattern I made recently:-

This is what it looked like on squared paper:-



The first dot column is $128+1+2+4+16+32+64$ i.e. CHR\$(247). If you work out each of the remaining columns you have the program line

```
PRINT#-2,CHR$(247);CHR$(148);CHR$(190);
CHR$(148);CHR$(247);CHR$(128);
```

But before we put it to printer we have a few more things to do.

Firstly, the printer must be in the graphics mode and so the programme includes CHR\$(18). I've also added the code for elongated print, for clarity of reproduction in the magazine. Then, do we want just one pattern or a row of them across the page? I've used just enough to nicely fill a 64-character line.

Here is the program I came up with to print out 4 lines of patterns. You can 'invent' some more good patterns, I'm sure.

The Listing:

```
0 GOTO10
1 **** PRINTER GRAPHICS *****
2 ***** MAL MCLAUCHLAN *****
3 SAVE"106:3":END
10 ***DMP FANCY BORDERS FOR MOS
T TANDY PRINTERS - CHANGE CODES
FOR SOME OTHER MACHINES*****
20 *BY MAL MCLAUCHLAN, 11 HUNTE
RST. BOONAH, QLD 4310 USING THE
PRINCIPLES MENTIONED IN THE DM
P-200 MANUAL*****
30 PRINT#-2,CHR$(18);CHR$(27);CH
R$(19);
40 FOR RPT=1 TO 80:PRINT#-2,CHR$
(213);CHR$(170);CHR$(213);CHR$(1
70);CHR$(213);CHR$(170);:NEXT RP
T:GOSUB 100
50 FOR RPT=1 TO 80:PRINT#-2,CHR$
(247);CHR$(148);CHR$(190);CHR$(1
48);CHR$(247);CHR$(128);:NEXT RP
T:GOSUB 100
60 FOR RPT=1 TO 60:PRINT#-2,CHR$
(136);CHR$(148);CHR$(162);CHR$(2
21);CHR$(221);CHR$(162);CHR$(148
);CHR$(136);:NEXT RPT:GOSUB 100
70 FOR RPT=1 TO 60:PRINT#-2,CHR$
(201);CHR$(213);CHR$(227);CHR$(2
21);CHR$(221);CHR$(227);CHR$(213
);CHR$(201);:NEXT RPT:GOSUB 100
80 END
90 ***GOSUB TO PUT SPACE BETWEEN
EACH LINE OF GRAPHICS FOLLOWS:-
*****
100 FOR RPT=1 TO 6:PRINT#-2:NEXT
RPT:RETURN continued on page 56
```

CoCo

FILES

FILES IS A database-orientated type of program. It is fairly straightforward and doesn't need lengthy description. You have eight options: Input data, List data, save data to tape, load data from tape, correct data (rewrite of data), edit data (add on to existing data), You need to type in POKE25,6:POKE&HE00,0:NEW before you load and run this program. Disk users need to type in POKE25,14:POKE&HE00,0:NEW before running also.

by T.J. Davies

32K ECB

The Listing:

```

0 POKE65495,0
1 PCLEAR 1
2 CLEAR 21000
3 DIM B$(1000)
4 GOTO8
5 POKE65494,0:CSAVE"FILES":END
6 '**BY T.J.DAVIES**(C)20/5/86**
7 REM **VERSION 4**
8 CLS
9 PRINT@224,;
10 INPUT"DATE";B$(0)
11 CLS
12 PRINTSTRING$(32,"*");
13 PRINTSTRING$(14,CHR$(156));"m
enu";STRING$(14,CHR$(156));
14 PRINTSTRING$(32,"*");
15 PRINT@132,TAB(5)"1. INPUT DAT
A"
16 PRINTTAB(5)"2. LIST DATA"
17 PRINTTAB(5)"3. SAVE DATA TO T
APE"
18 PRINTTAB(5)"4. LOAD DATA FROM
TAPE"
19 PRINTTAB(5)"5. CORRECT DATA"
20 PRINTTAB(5)"6. EDIT DATA"
21 PRINTTAB(5)"7. LOCATE GIVEN F
ILE"
22 PRINTTAB(5)"8. ALPHABETIZE DA
TA"
23 PRINT:INPUT"ENTER CHOICE";A
24 PLAY"T12805AAA"
25 ON A GOTO 26,35,48,57,75,87,1
00,146
26 CLS
27 PRINT"ENTER 'XXX' TO GO TO ME
NU.":PRINT
28 X=X+1
29 PRINT"DATA:"
30 PRINT X;
31 LINE INPUT B$(X)
32 PLAY"T12805AAB"
33 IF B$(X)="XXX"THEN X=X-1:GOTO
11
34 GOTO 28
35 CLS
36 PRINT"DATA:"
37 PRINTSTRING$(32,"-");
38 FOR Y=0TO X
39 I$=INKEY$
40 IF I$=CHR$(32) GOSUB141
41 PRINT Y;B$(Y)
42 PLAY"T3605AB"
43 NEXT
44 PRINT:PRINT"PRESS <ENTER> TO
GO TO MENU."
45 LINE INPUT W$
46 PLAY"T12805AAB"
47 GOTO 11
48 CLS:POKE65494,0
49 INPUT"NAME OF FILE";NA$
50 LINE INPUT"PRESS <ENTER> WHEN
READY TO SAVE";D$
51 OPEN"O",#-1,NA$
52 FOR W=0TO X
53 PRINT #-1,B$(W)
54 NEXT
55 CLOSE #-1
56 GOTO 11
57 CLS:POKE65494,0
58 X=-1
59 INPUT"NAME OF FILE";NA$
60 LINE INPUT"PRESS <ENTER> WHEN
READY TO LOAD";D$
61 CLS
62 PRINT"DATA:"
63 PRINTSTRING$(32,"-");
64 OPEN"1",#-1,NA$
65 INPUT #-1,I$
66 X=X+1
67 PRINT X;I$
68 B$(X)=I$
69 IF EOF(-1)THEN 72
70 GOTO 65
71 PRINT:PRINT"PRESS <ENTER> TO
GO TO MENU."
72 CLOSE #-1
73 LINE INPUT"PRESS <ENTER> TO G
O TO MENU.":D$
74 GOTO 11
75 CLS
76 INPUT"FILE NUMBER NEEDING COR
RECTION";Z
77 PLAY"T6405AC"
78 CLS
79 PRINT"DATA:"
80 LINE INPUT B$
81 PLAY"T12805AAB"
82 B$(Z)=B$
83 INPUT"ANY MORE CHANGES (Y/N)"
;K$
84 PLAY"T12805AAB
85 IF K$="Y"THEN75
86 GOTO 11
87 CLS
88 PRINT"ENTER FILE NUMBER BEING
CHANGED";
89 INPUT L
90 PLAY"T12805AAB"
91 CLS
92 PRINT"INPUT FURTHER DATA FOR
FILE"
93 PRINT L;B$(L);
94 I$=INKEY$:IF I$=""THEN94ELSEPR
INTI$;
95 IF I$=CHR$(13)THEN96 ELSE IF I
$=CHR$(8) GOSUB 98:GOTO94 ELSE B
$(L)=B$(L)+I$:GOTO94
96 PLAY"T12805AAB"
97 GOTO11
98 LE=LEN(B$(L))-1:B$(L)=LEFT$(B
$(L),LE)
99 RETURN
100 CLS
101 PRINTTAB(13)"MENU"
102 PRINTTAB(13)"----"
103 PRINTTAB(2)"1. LOCATE FILE U
SING NUMBER"
104 PRINTTAB(2)"2. LOCATE USING
FIRST CHR'"
105 PRINTTAB(2)"3. LOCATE USING
STRING"
106 PRINT:INPUT"ENTER CHOICE";F
107 PLAY"T12805AAB"
108 ON F GOTO 109,116,128
109 CLS
110 INPUT"ENTER FILE NUMBER YOU
WANT TO SEE";Y
111 PLAY"T12805AAB"
112 PRINT Y;B$(Y)
113 PRINT:LINE INPUT"PRESS <ENTE
R>TO CONTINUE";O$
114 PLAY"T12805AAB"
115 GOTO11
116 CLS
117 INPUT"ENTER NUMBER OF FIRST
CHR' NECESSARY";C
118 PLAY"T12805AAB"
119 PRINT
120 INPUT"THE FIRST GROUP OF CHR
'";C$
121 PLAY"T12805AAB"
122 FOR V=0TO X

```

KiDs SoNgs

by Mal McLauchlan

16K ECB

A COLOURFUL SCREEN introduces the littlies to nine bright singable tunes, well known in most classrooms. Just press a number and ENTER for a tiny singalong.



The Listing:

```

0 GOTO10
1 ***** KIDSONGS *****
2 ***** MAL MCLAUCHLAN *****
3 SAVE"106A:3":END
10 *****NINE FAVOURITE SONGS FOR
LITTLEES - JUST SELECT AND PLAY
20 *****SET TO COCO BY*****
*MAL MCLAUCHLAN,11 HUNTER STREET
,BOONAH. Q.4310*****
30 CLS:FOR P=0 TO 509 STEP 5:PRI
NTCHR$(255);CHR$(239)+CHR$(159)+
CHR$(175)+CHR$(191);:NEXT P
40 PRINT@4,"NINE GREAT KID'S SON
GS";
50 PRINT@68,"1.A HOLE IN MY BUCK
ET ";
60 PRINT@100,"2.THE MUFFIN MAN
";:PRINT@132,"3.LONDON'S
BURNING ";:PRINT@164,"4.T
HIS OLD MAN ";:PRINT@1
96,"5.DOWN BY THE STATION ";
70 PRINT@228,"6.DING DONG BELL
";:PRINT@260,"7.IN AND OU
T THE WINDOW ";
80 PRINT@292,"8.LOOPY LOO
";:PRINT@324,"9.POLLY PUT
THE KETTLE ON";

```

```

90 PRINT@419,"WHICH NUMBER DO YO
U WANT?";:INPUT X
100 C=RND(7)+1
110 ON X GOTO 120,150,180,210,24
0,270,300,330,360
120 CLS(C):PRINT@227,"THERE'S A
HOLE IN MY BUCKET";
130 FOR RPT=1 TO 2:PLAY"T503L8GA
L4BDDEGDEGDEGL8GAL4BDDEGDEGF#L2G
":NEXT RPT
140 GOTO 30
150 CLS(C):PRINT@ 232,"THE MUFFI
N MAN";
160 PLAY"T203L8.CFL8.FL16GL8AFL8
.FL16EL8DGL8.GL16FL8ECL8.CL16CL8
CFL8.FL16GL8AFL8.FL16EL8DGFEL4.F
P16L8CL8CCL8.CL16B-L8AFL8.FL16EL
8DGL8.GL16FL8ECL8.CO4L16CL8CCL8.
CO3L16B-L8AFL8.FL16EL8DGFEL2F
170 GOTO 30
180 CLS(C):PRINT@232,"LONDON'S B
URNING";
190 PLAY"T303L8CCL4FFL8CCL4FFL8G
GL4AAL8GG4AAO4CL2CL4CL2CL8CO3B-
L4AAO4L8CO3B-L4AAL8CCL4FFL8CCL4F
L2F
200 GOTO 30

```

```

210 CLS(C):PRINT@234,"THIS OLD M
AN";
220 PLAY"T503L4CO2AL203CL4CO2AO3
L2CL4DCO2B-AGAL2B-O3L4CO2FL8FFL4
FL8F8GAB-O3L2CL4CO2GGB-AGL2F
230 GOTO 30
240 CLS(C):PRINT@230,"DOWN BY TH
E STATION";
250 PLAY"T303L4FL8.FL16GL4AAL8.G
L16FL8.GL16AL4FCL8.FL16FL8.FL16G
L8.AL16AL4AGL8.GL16AL2FL8.FL16FL
8.FL16GL4AAL8.GL16FL8.GL16AL4FCO
3L4FFO4FFO3GAF
260 GOTO 30
270 CLS(C):PRINT@232,"DING DONG
BELL";
280 PLAY"T303L4FCL2FL8AB-GAL2FL4
FL8CCL2FL8AB-GAL2FL4AL8AB-O4L2CL
8DCO3B-O4L4CO3L8AAGAB-O4L4CL8DCO
3B-O4DL4CO3FL8FEFGL4AGL8AGAB-O4L
4CL8DCO3B-L4AGL2F
290 GOTO 30
300 CLS(C):PRINT@229,"IN AND OUT
THE WINDOWS";
310 FOR RPT=1 TO 2:PLAY"T303L8EE
L8.DL16CO2L8B03L4.DL8FFL8.EL16DL
8CL4.EL8GGO4L8.CO3L16BL8BL4AL8AG
GFDL2C":NEXT RPT
320 GOTO 30
330 CLS(C):PRINT@234,"LOOPY LOO"
;
340 PLAY"T303L8FFFL4AL8FO4L2CP16
O3L8FFFL4AL8FL2GL8FFFL4AL8FO4L2C
P16L8CDCO3B-AGL2F
350 GOTO 30
360 CLS(C):PRINT@228,"POLLY PUT
THE KETTLE ON";
370 PLAY"T304L8CDCO3B-AFL4FP96L8
GAGFECL4CP96O4L8CDCO3B-AFFAL4DL8
.EL16EL2FL8AFB-GAFL4P96FP96L8B-D
GFECFL4CL8AFB-GAFFAL4DL8EEL2F
380 GOTO 30

```

CoCo

FILES

```

123 IF LEFT$(B$(V),C)=C$ THEN PR
INT V;B$(V)
124 NEXT
125 LINE INPUT"PRESS <ENTER> TO
CONTINUE";H$
126 PLAY"T12805AAB"
127 GOTO11
128 CLS
129 LINEINPUT"INPUT THE STRING Y
OU ARE LOOKINGFOR.":T$
130 PLAY"DACDEAD"
131 CLS

```

```

132 PRINT"DATA:"
133 FOR Y=0TO X
134 F=INSTR(B$(Y),T$)
135 IF F=0THEN NEXT:GOTO138
136 PRINT Y;B$(Y)
137 NEXT
138 PRINT:LINEINPUT"PRESS <ENTER
> TO CONTINUE";ZX$
139 PLAY"CADEADC"
140 GOTO11
141 O$=INKEY$
142 I$=""
143 IF O$="" THEN141
144 IF O$=CHR$(32)THEN RETURN
145 GOTO 141
146 CLS

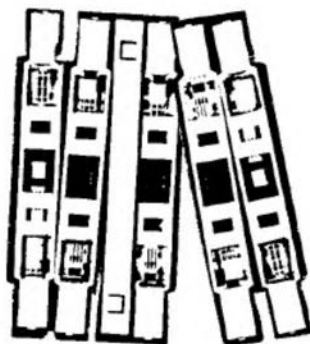
```

```

147 FOR J=X TO2STEP-1
148 R$=B$(1):F=1
149 FOR L=2TO J
150 IF B$(L)>R$THEN R$=B$(L):F=L
151 NEXT:B$(F)=B$(J):B$(J)=R$
152 NEXT
153 PRINT"DATA:"
154 FOR T=1TO X
155 PRINT T;B$(T)
156 NEXT
157 PRINT:LINEINPUT"PRESS <ENTER
> TO CONTINUE";S$
158 PLAY"DAECDAG"
159 GOTO 11

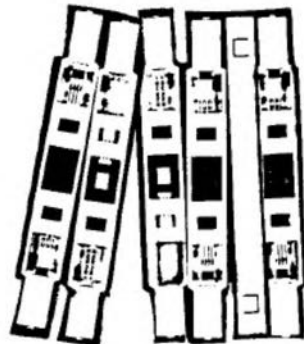
```

CoCo



by Barry Sidebottom

32K ECB UTILITY



THIS PROGRAM is a very straight forward Database for a cassette collection (audio). I know I could have used any of the myriad commercial types on the market but it's more fun doing your own, (and besides, customised versions do the particular job better).

There's not much to explain as it's self prompting, provided your cassettes are in the same format as mine ie. numbered 1 onward & categorised sides A & B. The program allows you to enter the titles & artists names. You can then search, view or goto a particular number.

A couple of notes on the menu selections:

- * The 'Toggle Auto' selection toggles auto on/off. Auto is used in 'Entering' and 'Viewing'
- * To change disk numbers go to 'Disk Dir' enter the number and respond no to dir.
- * To change the page length go to 'Printer' enter the page length and respond no to printout.
- * When viewing the files if the auto is 'on' the computer will wait a few seconds then continue. If auto is 'off' you will be prompted to continue.
- * In entering section if auto is 'on' the computer will assign the entry the next number, with auto 'off' you will be prompted. When entering side B a response of <ENTER> will copy the Title/Artist from side A.
- * the printout uses a couple of printer control codes for my AMUST 80DI to set page length and page to TOF. Change these accordingly.

That's about it, Hope you can use it.

The Listing:

```

1 * *****
2 * TAPECAT(ALOGUE) *
3 * BY *
4 * BARRY SIDEBOTTOM *
5 * *****
6 * VERSION 2.0 *
7 * 1986 (C) *
8 * *****
9
10 CLS:PRINT@8,"TAPECAT(ALOGUE)"
15 FOR X=1TO5:PRINT@8,"tapecat";
:SOUND200,1:PRINT@8,"TAPECAT";:S
OUND175,1:NEXT
20 PRINT@46,"BY":PRINT@71,"BARRY
SIDEBOTTOM.":PRINT@106,"VERSIO
N 2.0":PRINT@139,"1986 (C)"
25 PRINT@225,"always ENSURE CORR
ECT DISK IS INSERTED DURIN
G USE !!"
30 Y=1232:FOR X=1231TO1216STEP-1
:POKE X,179:POKE Y,179:Y=Y+1:NEX
1:POKE1216,177:POKE1247,178
35 Y=1279:FOR X=1248TO1280STEP32
:POKE X,181:POKE Y,186:Y=Y+32:NE
XT:POKE1312,180:POKE1343,184

```

```

40 Y=1342:FOR X=1313TO1327:POKE
X,188:POKE Y,188:Y=Y-1:NEXT
45 CLEAR2000
50 MM$(0)="off":MM$(1)="on":DIM
AA$(10),TA$(10),AB$(10),TB$(10):
DRIVE0:PL=66
55 PRINT@356,"1. START NEW FILE.
"
60 PRINT@388,"2. ACCESS EXISTING
FILE."
62 FOR X=1032TO1046:PE=PEEK(X):P
OKE X,PE-64:NEXT
65 PRINT@420,"drive #:"DD;
70 PRINT@449,STRING$(6,140);
75 PP=PEEK(1453):POKE1453,PP-64:
POKE1380,49:POKE1412,50:PRINT@45
7,"SELECT 1 OR 2":POKE1488,49:P
OKE1493,50
80 PRINT@472,STRING$(6,140);
85 SOUND205,1:GOSUB455:IF Z$="D"
THEN DD=DD+1:GOTO90ELSE100
90 IF DD>3THEN DD=0
95 GOTO65
100 ON Z GOTO370,110
105 GOTO45

```

```

110 CLS:GOSUB115:SOUND205,1:GOTO
130
115 PRINT@0,STRING$(31,""):PRIN
T@0,"FILE NAME ==> ":SOUND205,1
:LINEINPUT NF$:IF LEN(NF$)>8THEN
120ELSE125
120 PRINT@0,"TOO LONG !!
":SOUND30,5:FOR X=1TO5
00:NEXT:PRINT@0,STRING$(20,""):
GOTO115
125 IF NF$=""THEN RETURN ELSE NM
=0:FL$=NF$:RETURN
130 ' ** MAIN MENU
135 SC=0:AA$="" :AB$="" :TA$="" :TB
$=""
140 GOSUB610
145 PRINT@71,"** MAIN MENU **"
150 PRINT@133,"ADD MORE FILES."
155 PRINT@165,"VIEW CURRENT FILE
S."
160 PRINT@197,"SEARCH FOR STRING
."
165 PRINT@229,"GOTO TAPE NUMBER
#."
170 PRINT@261,"CHANGE FILE NAME.
"
175 PRINT@293,"DISK DRIVE/DIR. (
":DD$=MID$(STR$(DD),2,1):PRINTD
$;"")
180 PP=PEEK(1334):POKE1334,PP-64
185 PRINT@325,"TOGGLE AUTO. (MM
$(MM)")
190 PRINT@357,"PRINTOUT. (":PL$
=MID$(STR$(PL),2,2):PRINTPL$;"")
192 PE=PEEK(1392):POKE 1392,PE-6
4:PE=PEEK(1393):POKE 1393,PE-64
195 PRINT@389,"END SESSION. (UFDA
TE SYS.)"
200 PRINT@416,STRING$(32,140);
205 SOUND205,1:GOSUB455
210 IF Z$="F"THEN940
215 IF Z$="A"THEN465
220 IF Z$="V"THEN255
225 IF Z$="C"THEN640
230 IF Z$="D"THEN655ELSE IF Z$="
S"THEN1045
235 IF Z$="G"THEN720
240 IF Z$="T"THEN GOSUB840:GOTO1
30
245 IF Z$="E"THEN GOTO247ELSE250
247 GOSUB810:PRINT@448,"SESSION
ENDED. COLD START? (y/n)":SOUND
205,1:GOSUB455:IF Z$="Y"THEN249E
LSE IF Z$="N"THEN END ELSE247
249 POKE113,0:EXECA0999
250 GOTO205
255 ' ** VIEW FILES
260 CLS
265 GOSUB610
270 PRINT@70,"** VIEW FILES **

```



```

("MM$(MM)")"
275 PRINT@128,"ALL TAPES? (y/n)"
280 SOUND205,1:GOSUB455
285 IF Z$="Y" THEN310ELSE IF Z$="
N" THEN290ELSE280
290 PRINT@160,"START # :";:SOUND
205,1:LINEINPUT SN$:IF SN$="" THE
N CLS:GOTO130
295 SN=VAL(SN$):IF SN<10R SN>NN
THEN PRINT@160,"BETWEEN 1 -"NN:S
OUND30,5:FOR X=1TO1000:NEXT:PRIN
T@160,STRING$(30," ");:GOTO290EL
SE300
300 PRINT@192,"END # (a FOR ALL)
";:SOUND205,1:LINEINPUT EN$:IF E
N$="" THENPRINT@192,STRING$(30,"
");:GOTO290ELSE IF EN$="A" THEN EN
=NN:GOTO315
305 EN=VAL(EN$):IF EN<SN OR EN>N
N THEN PRINT@192,"BETWEEN"SN"- "N
N:SOUND30,5:FOR X=1TO1000:NEXT:P
RINT@192,STRING$(30," ");:GOTO30
0ELSE315
310 SOUND205,1:SN=1:EN=NN
315 FOR X=SN TO EN
320 GOSUB855
325 GOSUB880
330 IF MM=0 THEN340ELSE SOUND205,
1:FOR Z=1TO1500:NEXT
335 NEXT:GOTO355
340 PRINT@480," nEXT OR aBORT?";
345 SOUND205,1:GOSUB455
350 IF Z$="N" THEN NEXT ELSE IF Z
$="A" THEN355ELSE345
485 PRINT@128,"SIDE a (END//) T
O END."
490 PRINT@160,"artist:"::SOUND20
5,1:LINEINPUT AA$
495 IF AA$="" END// THEN CLS:GOSUB
810:GOTO130ELSE500
500 PRINT@192,"title :"::SOUND20
5,1:LINEINPUT TA$
505 PRINT@256,"SIDE b <ENTER> TO
DUPLICATE."
510 PRINT@288,"artist:"::SOUND20
5,1:LINEINPUT AB$
515 IF AB$="" THEN 520ELSE530
520 AB$=AA$
525 PRINT@295,AB$
530 PRINT@320,"title :"::SOUND20
5,1:LINEINPUT TB$
535 IF TB$="" THEN TB$=TA$:PRINT@
327, TB$
540 IF MM=1 THEN570
545 PRINT:PRINT" aUTO OR mANUAL N
UMBERING"
550 SOUND205,1:GOSUB455
555 IF Z$="A" THEN570ELSE IF Z$="
M" THEN560ELSE550
560 PRINT@448,"TAPE # :"::SOUND2
05,1:LINEINPUT TN$:TN=VAL(TN$):I
F TN>NN+1 THEN PRINT@480,"CAN'T B
E GREATER THAN"NN+1;:SOUND30,5:F
OR Z=1TO1000:NEXT:PRINT@480,STRIN
G$(30," ");:GOTO560ELSE565
565 X=TN
570 PRINT@480,"THIS WILL BE TAPE
# : "X;:SOUND205,1
" THEN690ELSE IF Z$="N" THEN PRINT
@448,STRING$(30," ");:GOTO130ELS
E635
690 CLS:PRINT"DISK CONTENTS"
695 SOUND205,1:DIR
700 PRINT:PRINT"GRANS FREE ="FRE
E(0):SOUND205,1
705 PRINT@480,"(any key) TO REIU
RN";
710 GOSUB455
715 CLS:GOTO130
720 ' ** GOTO TAPE NUMBER
725 PRINT@448,"TAPE # :"::SOUND2
05,1:LINEINPUT TN$:IF TN$="" THEN
PRINT@448,STRING$(30," ");:GOTO
130ELSE TN=VAL(TN$)
730 IF TN<10R TN>NN THEN735ELSE7
45
735 PRINT@448,"BETWEEN 1 - "NN:S
OUND30,5:FOR X=1TO1000:NEXT
740 PRINT@448,STRING$(30," ");:G
OTO725
745 X=TN:CLS:GOSUB610:GOSUB855:G
OSUB880
750 PRINT@416,"<ENTER> TO RETURN
TO MAIN MENU.";
755 PRINT@448,"TAPE # :"::SOUND2
05,1:LINEINPUT TN$:IF TN$="" THEN
CLS:GOTO130ELSE TN=VAL(TN$)
760 IF TN<10R TN>NN THEN765ELSE7
75
765 PRINT@448,"BETWEEN 1 - "NN:S
OUND30,5:FOR X=1TO1000:NEXT
770 PRINT@448,STRING$(30," ");:G

```



```

355 PRINT@480," mORE OR aBORT?";
360 SOUND205,1:GOSUB455
365 IF Z$="M" THEN255ELSE IF Z$="
A" THEN CLS:GOTO130ELSE360
370 ' ** OPEN NEW FILE
375 CLS:PRINT"START NEW FILE."
380 PRINTSTRING$(32,140);
385 PRINT@64,"FILE NAME (<=8): "
:LINEINPUT FL$
390 IF LEN(FL$)>8 THEN395ELSE405
395 PRINT"SORRY TOO LONG !":SOU
ND30,5:FOR X=1TO1500:NEXT
400 PRINT@81,STRING$(LEN(FL$),"
");:PRINTSTRING$(30," ");:GOTO385
405 PRINT@17,"=> "FL$
410 PRINT@64,"OPENING SYSTEM FIL
E .. STANDBY."
415 OPEN"D",#1,FL$+"/SYS"
420 WRITE #1,0:PUT #1,1
425 CLOSE#1:SOUND205,1
430 PRINT@64,"OPENING DATA FILE
.. STANDBY."
435 OPEN"D",#1,FL$
440 CLOSE#1:SOUND205,1
445 FOR X=1TO1000:NEXT
450 CLS:GOTO130
455 ' ** Z$=""
460 Z$=INKEY$:IF Z$="" THEN455ELS
E Z$=VAL(Z$):RETURN
465 ' ** INPUT NEW TAPES
470 CLS:GOSUB610
475 PRINT@66,"** INPUT NEW RECOR
DS ** ("MM$(MM)")"
480 X=NN+1:PRINT@27,NN;
575 IF X=NN THEN585ELSE580
580 NN=NN+1
585 OPEN"D",#1,FL$
590 WRITE #1,AA$,TA$,AB$,TB$
595 PUT #1,X
600 CLOSE#1
605 AA$="":AB$="":TA$="":TB$="":
GOTO465
610 ' ** ? CUPRENT FILE
615 PRINT@0,"CURRENT FILE => "FL
$
620 PRINT@32,STRING$(32,140);
625 IF MM=0 THEN GOSUB780
630 PRINT@27,NN;
635 RETURN
640 ' **FROM LINE 190 TO
CHANGE FILE NAME.
645 GOSUB810
650 GOSUB115:GOTO130
655 ' ** DISK CONTENTS
660 PRINT@448,"DRIVE # : "
:PRINT@457,"";:SOUND205,1:LINEI
NPUT DD$
665 IF DD$="" THEN PRINT@448,STRIN
G$(30," ");:GOTO130ELSE DD=VAL(
DD$)
670 IF DD<0OR DD>3 THEN PRINT@448
,"BETWEEN 0 - 3";:SOUND30,5:FOR
X=1TO500:NEXT:GOTO660
675 PRINT@310,DD$:PP=PEEK(1334)
:POKE1334,PP-64:DRIVE DD
680 PRINT@448,"DIRECTORY? (y/n).
";
685 SOUND205,1:GOSUB455:IF Z$="Y
OTO750
775 GOTO745
780 ' ** GET SYSTEM NUMBER
785 OPEN"D",#1,FL$+"/SYS"
790 GET #1,1
795 INPUT#1,NN
800 CLOSE#1
805 NN=1:RETURN
810 ' ** UPDATE CURRENT SYSTEM
815 OPEN"D",#1,FL$+"/SYS"
820 WRITE #1,NN
825 PUT #1,1
830 CLOSE#1
835 RETURN
840 ' ** TOGGLE MANUAL ON/OFF
845 IF MM=0 THEN MM=1ELSE IF MM=1
THEN MM=0
850 RETURN
855 ' ** ? TO SCREEN
860 OPEN"D",#1,FL$
865 GET #1,X:INPUT #1,AA$,TA$,AB
$,TB$
870 CLOSE#1
875 RETURN
880 PRINT@96,"SIDE a"
885 PRINT"a: "AA$
890 PRINT"t: "TA$
895 IF TB$=TA$ THEN920
900 PRINT:PRINT"SIDE b"
905 PRINT"a: "AB$
910 PRINT"t: "TB$
915 GOTO925
920 PRINT:PRINT" ** double tape *
*"

```

PROGRAMS

```

925 PRINT:PRINT"TAPE # : "X
930 FOR P=1TO3:PRINT:NEXT
935 RETURN
940 ' **PRINTOUTS
941 PRINT@448,"PAGE LENGTH ==> "
::SOUND205,1:LINEINPUT FL$:IF FL
$=""THEN PRINT@448,STRING$(32,"
");:GOTO130
942 PL=VAL(PL$):PRINT@368,PL$:F
OR X=1392TO1393:PE=PEEK(X):POKE
X,PE-64:NEXT:PRINT@448,STRING$(3
2," ");
943 PRINT@448,"DO PRINTOUT ? (y/
n)
944 SOUND205,1:GOSUB455:IF Z$="Y
"THEN945ELSE IF Z$="N"THEN PRINT
@448,STRING$(32," ");:GOTO130ELS
E944
945 PRINT@448,"DATE (DD/MM/YYYY)
=>";:SOUND205,1:LINEINPUT DA$
950 IF DA$=""THEN PRINT@448,STRIN
G$(32," ");:GOTO145
955 PRINT@448,STRING$(32," ");:P
RINT@448,"PRINT ALL FILES ? (y/n
).";
960 SOUND205,1:GOSUB455:IF Z$="Y
"THEN975ELSE IF Z$="N"THEN965ELS
E960
965 PRINT@448,STRING$(32," ");:P
RINT@448,"START #:";:LINEINPUT S
N$:IF SN$=""THEN PRINT@448,STRIN
G$(32," ");:GOTO145ELSE SN=VAL(S
N$):IF SN<1OR SN>NN THEN PRINT@4
48,"BETWEEN 1 -"NN";:SOUND30,5:F
OR X=110500:NEXT:PRINT@448,STRING
$(32," ");:GOTO965
970 PRINT@464,"END #:";:SOUND205
,1:LINEINPUT EN$:IF EN$=""THEN P
RINT@448,STRING$(32," ");:GOTO96
5ELSE EN=VAL(EN$):IF EN<SN OR EN
>NN THEN PRINT@464,"BETWEEN"SN"-
"NN";:SOUND30,5:FOR X=110500:NEXT
:PRINT@464,STRING$(15," ");:GOTO
970:ELSE980
975 SN=1:EN=NN
980 PRINT@448,STRING$(32," ");
985 GOSUB1255
987 PRINT#-2,CHR$(27);"C";CHR$(P
L)
990 PRINT#-2,CHR$(27);CHR$(14);"
TAPE CATALOGUE.":PRINT#-2,"FILE
- ";FL$:PRINT#-2,CHR$(27);"-";CH
R$(1);"update";CHR$(27);"-";CHR$
(9);" - ";DA$
995 PC=1:PG=1:PRINT#-2,"PAGE:";P
G:PRINT#-2
1000 FOR X=SN TO EN
1005 GOSUB855:PRINT@448,"PRINTIN
G TAPE #:"X;
1010 X$=STR$(X):X$=RIGHT$(X$,LEN
(X$)-1):IF LEN(X$)=1THEN TB=2ELS
E IF LEN(X$)=2THEN TB=1ELSE TB=0
1015 X$=X$+" ";:PRINT#-2,TAB(TB)X
$;TAB(6)LEFT$(TA$,35);:IF TB$=TA
$THEN PRINTTAB(43)"- "ELSE PRINT
AB(43)LEFT$(IB$,35)
1020 IF PC/25=INT(PC/25)THEN1025
ELSE1030
1025 PRINT#-2
1030 IF PC/50=INT(PC/50)THEN PRI
NT#-2,CHR$(27);CHR$(12):PG=PG+1:
FOR Z=1TO4:PRINT#-2:NEXT:PRINT#-
2,"PAGE:"PG:PRINT#-2:PC=PC+1:NEX
T ELSE PC=PC+1:NEXT
1035 PRINT@448,STRING$(32," ");:
PRINT@448,"MORE ? (y/n)";

```

```

1037 PRINT#-2:PRINT#-2:PRINT#-2,
"TOTAL PAGES:";PG
1040 SOUND205,1:GOSUB455:IF Z$="
Y"THEN PRINT@448,STRING$(32," ")
::GOTO955ELSE IF Z$="N"THEN CLS:
GOTO130ELSE1040
1045 ' **SEARCH FOR STRING
1050 PRINT@448,"STRING :";:SOUND
205,1:LINEINPUT SS$
1055 IF SS$=""THENPRINT@448,STRIN
G$(63," ");:GOTO130
1060 CLS:GOSUB610
1065 PRINT@65,"** SEARCH FOR STR
ING ** (" ;MM$(MM);")";
1070 PRINT@120,SS$
1075 PRINT@448,"ARTIST OR TITLE?
<enter>TO ABORT";
1080 SOUND205,1:GOSUB455
1085 IF Z$="A"THEN1090ELSE IF Z$
="T"THEN1120ELSE IF Z$=CHR$(13)T
HEN CLS:GOTO130ELSE1080
1090 PRINT@96,SS$:PRINT"artist":
GOSUB1150
1095 FOR X=SN TO NN
1100 GOSUB1165
1105 IF AA$=SS$ OR AB$=SS$THEN G
OSUB1195
1110 NEXT
1115 GOTO1235
1120 PRINT@96,SS$:PRINT"title":G
OSUB1150
1125 FOR X=SN TO NN
1130 GOSUB1165
1135 IF TA$=SS$ OR TB$=SS$THEN G
OSUB1195
1140 NEXT
1145 GOTO1235
1150 PRINT@448,"SEARCH FROM # (a
FOR ALL) ";:SOUND205,1:PR
INT@474,"";:LINEINPUT SN$:IF SN$
=""THEN CLS:GOTO130ELSE IF SN$="
A"THEN SN=1:GOTO1160ELSE1155

```

```

1155 SN=VAL(SN$):IF SN<1 OR SN>N
N THEN PRINT@448,"BETWEEN 1 -"NN
";:SOUND30,5:F
OR X=110500:NEXT:GOTO1150
1160 RETURN
1165 PRINT@448,"SEARCHING =>"X";
":PRINT@465,"MATCHES =>"SC;
1170 AA$="":TA$="":AB$="":TB$="
1175 OPEN"D",#1,FL$
1180 GET#1,X:INPUT#1,AA$,TA$,AB$
,TB$
1185 CLOSE#1.
1190 RETURN
1195 SC=SC+1
1200 GOSUB680
1205 FOR Z=1TO3:PLAY"T20L1303ABO
4CDEFGFEDCO3BA":NEXT
1210 PRINT@448,"SEARCHING =>"X";
":PRINT@465,"MATCHES =>"SC;
1215 IF MM=1THEN FOR Z=1TO3000:N
EXT:RETURN
1220 PRINT@480,"CONTINUE OR aBO
RI. ";
1225 SOUND205,1:GOSUB455
1230 IF Z$="C"THEN RETURN ELSE I
F Z$="A"THEN CLS:GOTO130ELSE1225
1235 PRINT@480,"SEARCH OVER. (any
key) TO RETURN";
1240 IF SC=0THEN PRINT@448,"NO M
ATCHES FOUND.":SOUND30,5
1245 SOUND205,1:GOSUB455
1250 CLS:GOTO130
1255 ' **CHECK PRINTER ON/OFF
1260 PR=PEEK(65314)
1265 IF PR/2=INT(PR/2)THEN PRINT
@448,STRING$(30," ");:RETURN
1270 PRINT@448,"TURN PRINTER ON"
::PRINT@448,"turn printer on";:S
OUND205,1:GOTO1255

```

CoCo

PRINTER GRAPHICS

continued from page 51

I also succeeded in alternating patterns (one single pattern from the second row followed by one from the third row) and this combination repeated the required number of times. Here it is:-



The combinations are almost infinite in number! If the Editor gets enough feedback from printer users to say you want it, I will show you how to design patterns and simple pictures like stick figures, using not one but a number of passes of the print head across the paper. This makes larger graphics for certain purposes. You may also like CoCo to add the 128 to each dot column count automatically, to save a boring job. Also, all the CHR\$ numbers can be put in to data lines so you don't have to type in CHR\$ over and over again. When that stage is reached, we will all know a lot more about printer graphics than we do now. I learn something new every time I am on the computer - that's one of the joys of our hobby!

This distinctive type of graphics provides us with another great use for our dot matrix printer...



LOTCHKEK8

by Keith Echberg

THE FIRST one is called 'LOTCHKEK8' and is for checking 'Lotto' results. It is well described in a separate sheet. The experts could write it better, no doubt, but it certainly works OK. I had no trouble at all in doing this program.

The Listing:

```

0 CLS
1 PRINT"LOTCHKEK8"
2 PRINT"FOR CHECKING 'LOTTO' RES
ULTS."
3 PRINT"BY KEITH ECHBERG,15:9:19
86":FOR I=1 TO 5000:NEXT I
4 PRINT"ONLY SUITABLE IF YOUR NU
MBERS ARE THE SAME FOR EVERY DRA
W"
5 PRINT"ENTER YOUR NUMBERS AT LI
NES 101,111 ETC.EXISTING NUMBERS
ARE SAMPLES"
6 PRINT"CHANGE LINE 10 TO ENTER
THE 8 WINNING NUMBERS AS 'DATA'
"
7 PRINT"ENTER THE 2 SUPPLEMENTAR
Y NUMBERS LAST"
8 PRINT"WHEN ALL WINNING NUMBERS
HAVE BEEN ENTERED,'RUN 10'."
9 PRINT:PRINT#-2,"LOTCHKEK8":PRIN
T#-2,""
10 STOP
20 FOR X=1TO8
30 READ F$
40 PRINT "F$=":F$:PRINT #-2,"F$=":
:F$
100 REM...GAME 1...
101 DATA5,7,21,35,22,18,31,8
102 IF F$="18" GOTO 201 ELSE 10
3
103 IF F$="19" GOTO 201 ELSE 104
104 IF F$="31" GOTO 201 ELSE 105
105 IF F$="33" GOTO 201 ELSE 106
106 IF F$="25" GOTO 201 ELSE 110
110 REM...GAME 2...
111 IF F$="9" GOTO 211 ELSE 112
112 IF F$="20" GOTO 211 ELSE 113
113 IF F$="24" GOTO 211 ELSE 114
114 IF F$="27" GOTO 211 ELSE 115
115 IF F$="19" GOTO 211 ELSE 116
116 IF F$="36" GOTO 211 ELSE 120
120 REM...GAME 3...
121 IF F$="7" GOTO 221 ELSE 122
122 IF F$="6" GOTO 221 ELSE 123
123 IF F$="12" GOTO 221 ELSE 124
124 IF F$="40" GOTO 221 ELSE 125
125 IF F$="35" GOTO 221 ELSE 126
126 IF F$="34" GOTO 221 ELSE 130
130 REM...GAME 4...
131 IF F$="2" GOTO 231 ELSE 132
132 IF F$="5" GOTO 231 ELSE 133
133 IF F$="21" GOTO 231 ELSE 134
134 IF F$="42" GOTO 231 ELSE 135
135 IF F$="23" GOTO 231 ELSE 136
136 IF F$="44" GOTO 231 ELSE 140
140 REM...GAME 5...

```

LOTCHKEK8

F\$=:5
YES,GAME 4

F\$=:7
YES,GAME 3
YES,GAME 6

F\$=:21
YES,GAME 4

F\$=:35
YES,GAME 3

F\$=:22

F\$=:18
YES,GAME 1
YES,GAME 5
YES,GAME 6

F\$=:31
YES,GAME 1
YES,GAME 8

F\$=:8
YES,GAME 9

REMEMBER THAT THE LAST 2 NUMBERS ARE SUPPLEMENTARIES

```

141 IF F$="36" GOTO 241 ELSE 142
142 IF F$="11" GOTO 241 ELSE 143
143 IF F$="42" GOTO 241 ELSE 144
144 IF F$="18" GOTO 241 ELSE 145
145 IF F$="42" GOTO 241 ELSE 146
146 IF F$="36" GOTO 241 ELSE 150
150 REM...GAME 6...
151 IF F$="7" GOTO 251 ELSE 152
152 IF F$="18" GOTO 251 ELSE 153
153 IF F$="14" GOTO 251 ELSE 154
154 IF F$="12" GOTO 251 ELSE 155
155 IF F$="34" GOTO 251 ELSE 156
156 IF F$="43" GOTO 251 ELSE 160
160 REM...GAME 7...
161 IF F$="2" GOTO 261 ELSE 162
162 IF F$="42" GOTO 261 ELSE 163
163 IF F$="15" GOTO 261 ELSE 164
164 IF F$="37" GOTO 261 ELSE 165
165 IF F$="40" GOTO 261 ELSE 166
166 IF F$="45" GOTO 261 ELSE 170
170 REM...GAME 8...
171 IF F$="3" GOTO 271 ELSE 172
172 IF F$="36" GOTO 271 ELSE 173
173 IF F$="41" GOTO 271 ELSE 174
174 IF F$="44" GOTO 271 ELSE 175
175 IF F$="31" GOTO 271 ELSE 176
176 IF F$="38" GOTO 271 ELSE 180
180 REM...GAME 9...
181 IF F$="8" GOTO 281 ELSE 182
182 IF F$="1" GOTO 281 ELSE 183
183 IF F$="19" GOTO 281 ELSE 184
184 IF F$="24" GOTO 281 ELSE 185
185 IF F$="16" GOTO 281 ELSE 186
186 IF F$="42" GOTO 281 ELSE 190
190 REM...GAME 10...
191 IF F$="33" GOTO 291 ELSE 192

```

```

192 IF F$="39" GOTO 291 ELSE 193
193 IF F$="28" GOTO 291 ELSE 194
194 IF F$="16" GOTO 291 ELSE 195
195 IF F$="34" GOTO 291 ELSE 196
196 IF F$="41" GOTO 291 ELSE 340
201 PRINT "YES,GAME 1":PRINT#-2,
"YES,GAME 1":GOTO 110
211 PRINT "YES,GAME 2":PRINT#-2,
"YES,GAME 2":GOTO 120
221 PRINT "YES,GAME 3":PRINT#-2,
"YES,GAME 3":GOTO 130
231 PRINT "YES,GAME 4":PRINT#-2,
"YES,GAME 4":GOTO 140
241 PRINT "YES,GAME 5":PRINT#-2,
"YES,GAME 5":GOTO 150
251 PRINT "YES,GAME 6":PRINT#-2,
"YES,GAME 6":GOTO 160
261 PRINT "YES,GAME 7":PRINT#-2,
"YES,GAME 7":GOTO 170
271 PRINT "YES,GAME 8":PRINT#-2,
"YES,GAME 8":GOTO 180
281 PRINT "YES,GAME 9":PRINT#-2,
"YES,GAME 9":GOTO 190
291 PRINT "YES,GAME 10":PRINT#-2,
"YES,GAME 10":GOTO 340
340 PRINT:PRINT#-2,""
350 NEXT X
360 PRINT"REMEMBER THAT THE LAST
2 NUMBERS ARE SUPPLEMENTARIES"
370 PRINT#-2,"REMEMBER THAT THE
LAST 2 NUMBERS ARE SUPPLEMENTARI
ES"

```

©88



SCREEN SAVE

by George McLintock

UTILITY

I AM IN THE process of converting my screen dumps to plotters to work with the High Resolution Graphic Screen of the CoCo3. Before doing so, it has been necessary to work out some way of accessing this screen in a similar way as the old CoCo graphic screen can be.

Some aspects which may be of more general interest are -

TO DISPLAY THE HIGH RES GRAPHIC SCREEN WITHOUT CLEARING IT

POKE &HE6C6,18:POKE &HE6C7,18

After using these POKE's, the HSCREEN command will display the High Res Screen, but will not clear it. So that you can draw a picture with one program, and load another program which can display what was previously drawn. You can also switch displays between this screen and text screens, and still come back to the High Res Graphic Screen again without losing what was there.

The POKE's remove the call to the HCLS command which is part of the HSCREEN command.

TO ACCESS THE HIGH RESOLUTION GRAPHIC SCREEN WITH MACHINE LANGUAGE.

This procedure is based on re-directing control from within the HCLS command to your own ML routine starting at Hex E00 (For disks)

POKE &HE6E1,&H7E:POKE &HE6E2,&H0E

Your ML routine is then entered by executing a HCLS command in Basic. When control arrives at your ML routine, the 32K of memory for the High Res Graphic Screen is located in normal address space from Hex 2000 to Hex 9FFF, and can be operated on at those addresses.

When finished, you exit your routine and return to Basic with a JMP Hex E6EB.

The ML routine must be restricted to addresses below Hex 2000, and the stack should not be used. To be safe, all registers used (except X and CC) should be saved and restored, but not with PSHS.

To restore the HCLS command to normal, POKE &HE6E1,&H8E: POKE &HE6E2,&H20. For non-disk systems, you should be able to replace Hex 0E with Hex 06 and locate your ML routine from that address.

When your ML routine is entered, interrupt are masked and must be left that way. This means that you cannot (C)SAVEM or (C)LOADM the High Res Screen directly from this memory space unless you also make all other changes to ROM routines that are required to prevent interrupts being unmasked.

I have included a small Basic/ML program (Called 3SAVESC�) which will save and restore the High Resolution Graphic Screen to disk or tape based on this procedure.

The High Res Screen is moved to normal memory in blocks of 4K at a time (from Hex 1000 to Hex 1FFF), and moved from there to disk or tape.

GENERAL

A reset or a cold start, will restore the copy of ROM to its original form, hence these POKE's have to be re-done after either event. Once set, the High Res Graphic Screen will remain unaltered in much the same way as the old CoCo graphic screen.

RESERVED WORD & DISPATCH TABLES.

The reserved word table and dispatch table for the new commands start from Hex E715 and Hex E236 respectively. And from Hex E264 and Hex E27E for the new functions.

If you want to look for other useful bits of ROM code, the dispatch addresses are:

WIDTH	F636	PALETTE	E5F0	HSCREEN	E688
LPOKE	E545	HCLS	E6CF	HCOLOR	E6F4
HPAINT	EBF5	HCIRCLE	EA49	HLINE	E882
HGET	EDE5	HPUT	EDED	HEUFF	ED58
HPRINT	EF3F	ERL	E3D4	BRK	E3E6
LOCATE	F8D2	HSTAT	F925	HSET	E761
HRESET	E765	HDRAW	F39D	CMP	E676
RGB	E674	ATTR	F9B9		

For the Functions:

LPEEK	E573	BUTTON	E5B1	HPOINT	E85C
ERNO	E4E9	ERLIN	E4FD		

The Listing:

```

1  ** 3SAVESCN
   BY GEORGE MCLINTOCK
   17/11/86
2  GOTO 20
3  SAVE "112:3":END
4  STOP
5  'THIS PROGRAM ALLOWS YOU TO
   SAVE AND RESTORE THE HIGH RESOL-
   UTION GRAPHIC SCREEN OF THE COCO
   3 TO/FROM DISK OR TAPE
6  '
10 A$=INKEY$:IF A$="" THEN 10 ELSE
   RETURN
20 CLS:PRINT"A PROGRAM TO SAVE A
   ND RESTORE THE HIGH RES GRAPHI
   C SCREEN OF THE COCO3 TO DISK O
   R TAPE":PRINT:PRINT"BY GEORGE MC
   LINTOCK":PRINT
30 PCLEAR 8 'CLEAR MEMORY FOR ML
   ROUTINE
40 PRINT"ENTER S TO SAVE THE S
   CREEN":PRINT" OR R TO RESTOR
   E IT":PRINT:GOSUB 10:OP$=A$
50 IF A$="S" OR A$="R" THEN 60 ELSE
   40
60 PRINT"ENTER D FOR DISK OPER
   ATIONS OR T FOR TAPE":PRI
   NT:GOSUB 10:DS=A$
70 IF A$="D" OR A$="T" THEN 80 ELSE
   60
80 PRINT"ENTER THE HIGH RES SCRE
   EN USED":PRINT:PRINT" 1 FOR HSCR
   EEN 1":PRINT" 2 FOR HSCREEN 2":P
   RINT" 3 FOR HSCREEN 3":PRINT" 4
   FOR HSCREEN 4":PRINT:GOSUB 10:S=
   VAL(A$)
90 IF S < 1 OR S > 4 THEN 80
100 PRINT"ENTER NAME OF FILE":IN
   PUT N$
110 B=0:FOR X=&HE00 TO &HE44 'SE
   T UP ML
120 READ A$:C=VAL("&H"+A$):B=B+C
   :POKE X,C
130 NEXT X:IF B <> &H183C THEN P
   RINT "ERROR IN DATA STATEMENTS":
   STOP
140 POKE &H13E,0:POKE &H143,0 'A
   LLOW WITH BDOS - REQUIRED MY MAC
   HINE
150 POKE &HE6C6,18:POKE &HE6C7,1
   8 'ALLOW HSCREEN WITHOUT CLEARIN
   G
160 POKE &HE6E1,&H7E:POKE &HE6E2
   ,&H0E 'SET TO BRANCH TO ML
170 POKE &H0E02,&H20 'START FROM
   BEGINING OF SCREEN
180 IF DS="T" THEN PRINT:PRINT "
   SET TAPE RECORDER TO ";:IF OP$="
   R" THEN PRINT "PLAY" ELSE PRINT
   "RECORD"
190 IF DS="T" THEN PRINT "AND PR
   ESS ENTER":GOSUB 10
200 IF S=2 OR S=4 THEN S1=8 ELSE
   S1=4
210 HSCREEN S:IF OP$="R" THEN 30
   0
220 POKE &H0E04,0 'SWITCH FOR SA
   VE
230 FOR X=1 TO S1
240 N1$=N$ + MID$(STR$(X),2) 'NA
   ME OF THIS BLOCK
250 AUTO 'MOVE THIS BLOCK
260 IF DS="D" THEN SAVEM N1$,&H1
   000,&H1FFF,0 :GOTO 270
265 CSAVEM N1$,&H1000,&H1FFF,&H1
   000
270 NEXT X
280 POKE &HE6E1,&H8E:POKE &HE6E2
   ,&H20 'RESET HCLS TO NORMAL
290 STOP
300 POKE &H0E04,1 'SWITCH FOR RE
   STORE
310 FOR X=1 TO S1
320 N1$=N$ + MID$(STR$(X),2) 'NA
   ME OF THIS BLOCK
330 IF DS="D" THEN LOADM N1$ ELS
   E CLOADM N1$
340 HCLS 'MOVE THIS BLOCK
350 NEXT X
360 GOTO 280
370 DATA 20,0D,20,0,0,10,0,20,0,
   0,0,0,0,0
380 DATA 30,8C,F0,EF,07,10,AF,09
   ,ED,0B,1F,13
390 DATA 10,AE,40,AE,43,6D,42,26
   ,17,A6,A0,A7,80,AC,45,26,F8,10,A
   F,40
400 DATA1F,31,EE,07,10,AE,09,EC,
   0B,7E,E6,EB
410 DATA A6,80,A7,A0,AC,45,26,F8
   ,20,E7

```

CORRECTIONS

INVENTORY

In "Inventory" (Oct CoCo, Pg 44) there are a few changes to be made. Line 670 should read:

```

670 INPUT#-1,IS(C):INPUT#-1,Q(C):
   INPUT#-1,P(C):INPUT#-1,M$(C):
   INPUT#-1,S$(C)

```

And line 870 should read:

```

870 PRINT#-1,IS(X):PRINT#-1,Q(X):
   PRINT#-1,P(X):PRINT#-1,M$(X):
   PRINT#-1,S$(X)

```

It seemed that some people got an ?FD error whenever they attempted to save or load their data.

QUADSOLVE

"Quadsolve" (November 1986, pg 57) line 1130 needs to be changed to:

```

PRINT@98,"INTO LINE 910, USING THE
   FORM":PRINT@130,"Y=A*X*X+B*X+C THEN
   run 830."

```

VARIATIONS ON PYE

"Variations on Pye" (November 1986, pg 56) line 150 should read:

```

150 GOTO150

```

*

"Narzod" (October 1985, pg 14): Line 37 wasn't very readable; so here is what it should read:

```

37 FOR L=1 TO LEN(V$):
   P$=MID$(V$,L,1):
   IF P$=" " THEN 43

```

Note that there is a space between the two quotes!



STOP!

Just Released!!

The Probe
for the CoCo 3!

Now you can use your
CoCo 3 to measure
temperatures!



Complete with software,

\$39.95



ELQUIZ

by Richard Cubbit

GAME

HERE IS A program for the CoCo III. It is only an early version of the program but I thought I would send it up for you to have a look at.

It is a simple times table program and the instructions are:

"You get asked 20 questions. Enter the answer followed by pressing ENTER. The aim is to get 100% in the quickest time".

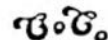
Have fun, and let Elliot Goblet teach you the times table.

The Listing:

```

0 GOTO5
1 '*****ELQUIZ(V1)****
2 '*YOU GET ASKED 20 *
  *QUESTIONS ENTER THE*
  *ANSWER FOLLOWED BY *
  *PRESSING ENTER THE *
  *AIM IS TO GET 100% *
  *IN THE QUICKEST *
  *TIME... *
  ******
3 SAVE"113:3":END
4 'WRITTEN BY R.CUBBIT
5 PALETTE CMP
6 ON BRK GOTO 93
7 HCOLOR8
8 WIDTH40:CLS(5):LOCATE5,5:PRINT
  "Elliot Goblets math quiz":LOCAT
  E10,10:PRINT"Written by R.Cubitt
  ":LOCATE15,20:ATTR4,5,B:PRINT"No
  w LOADING..":ATTR2,0
9 FOR ZZ=1 TO2250:NEXTZZ
10 WIDTH32
11 RT=0:WA=0:TIMER=0:TA=0
12 HSCREEN2
13 'HCLS
14 HCOLOR8
15 HCIRCLE(124,120),68,8,1,0,.5
16 HCIRCLE(122,56),82,8,1,.5,1
17 HCIRCLE(92,76),20,8
18 HCIRCLE(92,76),16,8
19 HCIRCLE(92,76),6,8
20 HCIRCLE(152,76),20,8
21 HCIRCLE(152,76),16,8
22 HCIRCLE(152,76),6,8
23 HCIRCLE(92,76),13,8,.5,1
24 HCIRCLE(152,76),13,8,.5,1
25 HCIRCLE(122,92),28,8,1,.70,.8
3
26 HCIRCLE(122,92),24,8,1,.68,.8
3
27 HDRAW"BM40,56:D5L1D7F1D5F1D2F
  1D3F1D2F2D2F6R1F6D1F2U43H1U10H1U
  6E1U1R1E1U3E3R1E4R1E3R2E2R7F1R3E
  1R2E1R1E4R1E1R1E2R2F1R7F1R5F1R9F
  1R3E2R2E1R1R5F14R1F1R5"
28 HDRAW"R4D1R2D1R1F2D1R1D1F1D1F
  2D1F1D3F1D23F1D7F1D7F1D19F1E1U1E
  1U1E1U1E2U1E1U2E7R1E1R1E1U3E2U5E
  1U8E1U11"
29 HDRAW"BM53,94:L2G3D2G1D4F1D6F
  1D8R1D2F3R4E2R1"
30 HDRAW"D5F1D1F1D1F1D1F1D1F1D1F
  1R1F1D1F1R1D1R1E2R2E5R1E3R1E3R1E
  2R1E4R1E1R1E1R1E1R1E1R3E1R3E1R3E
  1R3E1R8D1R5F1R8F1R2F1R1F2R1F2R1F
  2R1FR1F2D1R1F2R1F6D1F3R2F1E3U1R1
  U1R1U3R2U2R1U1E1U2E1R1U4"
31 HDRAW"E1U11E1U15"
32 HDRAW"BM197,90:R3F1D15G1D3G1D
  3G1D3G3L2G1L3"
33 HLINE(72,72)-(60,80),PSET
34 HLINE(72,76)-(60,84),PSET
35 HLINE(172,72)-(180,78),PSET
36 HLINE(172,76)-(181,82),PSET
37 HDRAW"BM110,103:L2G1L1G2L1G2D
  2G1F1D1F1D1F1R6H1U1E2R4F1R1D1R1F
  2R8E2R1E1R4F1D1G2R3E1R1E2U1E1U3E
  1H1U1H1U1L1H1L2H1L1"
38 HLINE(113,71)-(106,105),PSET
39 HLINE(129,69)-(137,101),PSET
40 HDRAW"BM93,143:R1E3R1E1R1E1R1
  E2R1E1R1E1R1E1R1E1R2E1R1E1R3F1R7
  E1R4F1R5F1R1F1R2F1R1F1R2F1R1F1R1
  F1R1D1L19G1L17H1L3G1L7G1L3G1L3G1
  L3G1"
41 HCIRCLE(122,91),60,8,1,.16,.3
4
42 HCIRCLE(92,76),2,8:HCIRCLE(15
  2,76),2,8
43 HPAINT(124,100),4,8
44 PALETTE 15,60
45 HPAINT(120,50),15,8
46 HPAINT(84,125),15,8
47 HPAINT(164,130),15,8
48 HPAINT(92,86),15,8:HPAINT(152
  ,86),15,8
49 HPAINT(192,110),15,8
50 PALETTE 1,4
51 HPAINT(120,10),1,8:HPAINT(120
  ,172),1,8
52 PALETTE 11,15
53 HPAINT(1,1),11,8
54 HPAINT(76,78),8,8
55 HPAINT(168,78),8,8
56 HPAINT(70,74),8,8:HPAINT(174,
  75),8,8
57 HPAINT(84,76),4,8:HPAINT(160,
  76),4,8
58 HPAINT(84,76),4,8:HPAINT(160,
  76),4,8
59 HPAINT(100,76),4,8:HPAINT(144
  ,76),4,8
60 HPAINT(90,74),11,8:HPAINT(154
  ,74),11,8
61 PALETTE9,32:HPAINT(124,136),9
  ,8:HPAINT(124,146),9,8
62 HCOLOR4
63 HPRINT(26,1),"Hi my name is"
64 HPRINT(26,2),"Elliot Goblet"
65 HPRINT(26,3),"I will teach"
66 HPRINT(29,4),"you your "
67 HPRINT(26,5),"MULTIPLICATION"
68 HPRINT(28,6),"Tables!!!"
69 HPRINT(23,8),"WHICH TABLE 1-1
  2?"
70 INPUT M
71 IF M<1 OR M>12 THEN GOTO 69
72 TIMER=0
73 HCOLOR(4):Y=RND(12):HPRINT(25
  ,10),"What is ":HPRINT(32,10),M:
  HPRINT(36,10),"*":HPRINT(37,10),
  Y:TA=TA+1
74 INPUT A:IF A=M*Y THEN HPRINT(
  26,12),"!!!CORRECT!!!":FOR P = 1
  TO 4:NEXT:GOSUB78:GOSUB76:GOTO7
  3
75 HPRINT(26,12),"***WRONG***"
  :FOR P=1TO4:NEXT:GOSUB 83:GOSUB7
  6:GOTO73
76 HCOLOR(11):HLINE(202,80)-(320
  ,110),PSET,BF
77 RETURN
78 'RIGHT ANSWER
79 RT=RT+1:IF RT=20 THEN GOTO 88
80 FORZZ=1TO6:SOUND RND(255),2:N
  EXTZZ
81 IF TA=20 THEN GOTO 88
82 RETURN
83 'WRONG ANSWER
84 WA=WA+1
85 SOUND 100,5
86 IF TA=20 THEN GOTO 88
87 RETURN
88 HPRINT(26,15),"You have got "
  :HPRINT(23,16),RT:HPRINT(27,16),
  "Answers RIGHT":HPRINT(25,17),"Y
  our % right is ":HPRINT(30,18),(
  RT/20)*100
89 HPRINT(23,19),"You took.."
90 HPRINT(32,19),TIMER/60
91 HPRINT(32,20),"SECONDS!"
92 HPRINT(2,22),"Do you want to
  try again y/n":INPUT V$:IF V$="Y
  " THEN RUN ELSE END
93 CLS:WIDTH32:SCREEN1,0:PRINT"W
  EAK EFFORT":END

```



WHATS ON CoCoOz

#1 to #45

CoCoOz #1

- *Roadquiz
Hi res tutor and tester of road signs
- *Print32
M/L utility adjusts printout widths to your choice.
- *Market
Game simulation of a stockmarket. Buy and sell without risk.
- *Dodgem.
Guide spaceship through asteroid belt with joystick.
- *Cricket
User-friendly prompt generates cricket scoreboard.
- *Personal
Records and manages your domestic finances.
- *Anaes
Adventure to guide through anesthetic routines.
- *Protector
Arcade game combining features of defender and invasion.
- *Wiz-kid
Fantastic hi-res teaches littlies to count!

CoCoOz #2

- *Zap
Explode great variety of alien craft using laser sights.
- *Erazor
Lead your shots to clean up boulders with every pass.
- *Hangman
Graphics & spelling game with hidden words to discover.
- *Townquiz
Unscramble words of Australian towns, then shows location on map.
- *Sort
M/L superfast sort routine using latest techniques.
- *Diary
Manage your time by planning it - edit and store
- *Menu
Auto-loads, selected programs from multi-program cassette.
- *Pakdump
Dump ROMPAKS to alter and store on tape or disk.
- *Printdat
Tabular printout using Rainbow's 'unidatfile'.

CoCoOz #3

- *Austgeog
Hi-res drill in names and spelling of towns and rivers.
- *Garden of Eden
Allocate resources for happy and productive society.
- *Alfabet
Fine graphics teach and drill you in the Greek alphabet.
- *Centrit

- Joystick board game to clear adjacent disks until none.
- *CCMeteor
Arcade game using lasers to target attackers and trails.
- *CoCoFile
Full-blown database with all those must-have features.
- *Scuba
For divers, it has the safety calculations built-in.
- *RBasic
Dump basics to 64K to change or use with 48K left.
- *Use64K
Page switching each of 32K banks give access to 96K.

CoCoOz #4

- *Rally
M/L arcade car driving in three lanes to dodge CoCo's.
- *Timekeep
Computerized time and scorekeeping for Aussie rules.
- *Autoline
Adds the missing automatic line numbering feature
- *Spell
Flashcard method of drilling in weekly wordlists
- *KT/moves
Move chess knight to land on each square once.
- *Time sconv
Each sqasconv patches to convert most popular database to disk.
- *Screenprint
Copies all PMODEs from screen to Tandy DMP100 printers.
- *Alphabet
Large graphic lowercase letters teach youngsters.
- *Punter
Bet on the horses in this graphic race game.

CoCoOz #5

- *Flagquiz
Full graphics to learn and test flags of 48 nations.
- *Tutor
Learn all about the draw command and how to use it.
- *Fraction tutor
Not only tests fractions but shows how to.
- *CoCoMind
Mastermind game hones reasoning and logic
- *Oilslick
Fast reflexes to catch drops and deposit in moving pot
- *Line Control
Choose from 22 speeds of scrolling during listing
- *Ramtest
Speedily finds how much RAM and checks every bit

of it.

CoCoOz #6

- *Calendar
Provides a month's calendar for any day chosen.
- *Tips
Easy to follow step through the hard basic parts.
- *Shoot Gallery
Shoot the toy animals weaving to and fro before you win.
- *Printsort
Gives printout after sorting up to 200 names/titles.
- *BIO
Bio-feedback of stress with minimum of hardware.
- *Tables
Drills kids in their timestables the easy way.
- *Galactic
Arcade space game that's a real puzzler!
- *Find
M/L utility lets you search for a string in a listing.
- *Poker m/c
Pokie simulation with all the features.

CoCoOz #7

- *Beauty
M/L utility to save M/L or Basic programs to tape.
- *Datagen
Converts M/L routines to Data to be embedded in Basic.
- *Pcopy
Smooth prompted copy disk utility beats backup!
- *Concert
6 classics in multi-voice gives undreamed of sound.
- *ICOSA
Graphic reproduction of slow turning multi-faceted 3D.
- *Tables
Multiple Inkey of controlled speed tables drill.
- *Wordlist
Flashcard for speech, word recognition most used words.
- *Bomb Attack
An arcade space-invaders with an added wrinkle.
- *Invaders
A truly professional space-invaders using keys.

CoCoOz #8

- *Speedtables
273 choices to drill math, including graphic game
- *Tymestable
Dual speed drills in multiplication tables.
- *Tables
Pretty graphics and sweet sounds to make learning fun.
- *Everest 1.6
Simulated Everest climb deploying men and materials.
- *Buggle
3 direction speed word game using 16 letters.
- *Monitor+
Do anything you want over the full 64K.
- *Fasttest
M/L utility to mix graphics with text characters.
- *F25/2
Controls 200 sales of 100 items to 80 customers.
- *Nozart

Bright and gay horn concerto with illi-wind lyrics.

CoCoOz #9

- *Skiing
Reverse-video arcade to guide skier between flags.
- *ADV 32K
Adventure to restore a nuclear plant to working order.
- *Rally
Car chase with you, the target. Hit or be hit.
- *Spool64K
Uses upper memory as buffer for your printer.
- *Screen Echo
Redirects output to the screen via the printer.
- *Creattitle
Editor to create screens for auto-load and Auto-exec.
- *Probability
Dice plots graphs on chances of rolling dice.
- *Morse Code
Trains and drills you in morse code for licence speed.
- *Math Comp
Mathematic exerciser and scorer for up to 10 students.

CoCoOz #10

- *Yahtzee
Polished card game with complex scoring done by CoCo.
- *Bank Statement
Saves and prints seven column listing of one or two accounts
- *Adds
Automatic database system with seven modes already.
- *Copycreature
Logical thinking and classification of skills for 4 to 8 year-olds.
- *Supermind
Mastermind puzzle using 8 colors for code.
- *Oregon
On trail simulation with you, the wagon master.
- *Battleship
Throw away paper for this 2-player graphic game
- *Autosave
Saves your building program with least hassle.
- *dpms
Disk program management system, says it all.

CoCoOz #11

- *DiskFile
The best disk garbage cleaner you could ask for.
- *Bigremarks
M/L utility makes those remarks all worth while.
- *DIR
Controls the speed of disk directory listing.
- *CCS
Tape based generator of monthly statements to debtors.
- *Label MKI
Utility for printing out variety of label sizes.
- *EZ-Tutor
Comprehensive learning program with demo German data.
- *Atlantis
Large adventure program escaping from a lost city.
- *Morse
Practice and drill for your dots and dashes.
- *Meanies

Supurb imaginative space creatures from all angles.

CoCoOz #12

- *Binary
Tutorial on binary and drill or decimal conversion.
- *Checkers.
Sharpen your skills with this old graphics board game.
- *1NVMK1.1
Prints quote or invoice for the small businessman.
- *Fastdraw
Makes drawing from curciuts to pictures as easy as can be.
- *Mastermind
Cipher decoding the fun way.
- *Delta
DogFight your craft against CoCo's with missles.
- *Scatter
Ranks the scores of up to 44 students or any such sort.
- *Hexprinter
Dumps M/L in memory as decimal and Hexadecimal
- *Ramlist
Functions of a scratchpad, RAM address functions

CoCoOz #13

- *Konekt4
Game of skill and concentration.
- *Classicf
Plays selection of classic pieces.
- *Fuel rate
Tests the economy of your car.
- *Studs
Students tests unified development system.
- *Santa
Hard to pop gifts through chimneys.
- *Statement
Spits out invoices for businessmen.
- *Disklabel
Prints neat labels for disks.
- *Sums
Test subtraction and addition.
- *Python
Eat mice but watch for water.

CoCoOz #14

- *Shoplist
Creates comprehensive shopping list.
- *Labeller
Print index labels for cassette boxes.
- *Wordtutor
Foreign language instruction.
- *Diamond
Adventure hunt - scary!
- *Author
CoCo becomes hires scoring board
- *Diskcert
Certifies every sector and track
- *CoCoMath
Helps children improve their maths.
- *Flackone
Get back to base to repair ship.
- *Hat dance and Willtell Johanna Vagg.
Tunes on CoCo

CoCoOz #15

- *Speller

- Checks spelling on disk files
- *Superman
See the man and hear his theme.
- *Cricket
Wonderful hi-res sports graphics
- *Mastermind
One of the best masterminds around
- *Letterpro
Learn about text editing
- *Insure
Standard value or own of every item
- *Sorcerer
Complex adventure (2 years in making!).
- *SPESPL
Teach spelling from spoken word.
- *Run2BC
Load 2 X 32K programs & run together

CoCoOz #16

- *Russian
Learn the Russian alphabet
- *CoCoZap
Disk sector/data editor utility
- *Loananal
Explore money-borrowing options.
- *Andromid
Trap her to stop radiation contamination.
- *CoCotutor
Structured learning from file.
- *Willand
Copies tapes + descenders + forces
- *Pie Chart
Displays data as sections of a pie.
- *Treasure
Search for 2 million units in caves
- *Capitals
Learn the capitals of 66 different countries.

CoCoOz #17

- *Assault
Battle with missles in space.
- *Ascot
Win or lose at the Gee-Gee's.
- *Virus
Destroy it in an arcade quality game.
- *Monarchs
List and learn every British monarch.
- *Spelling
For younger kids.
- *Easy
Menu simplifies disk operations.
- *CoCoCalc
26 X 26 spreadsheet program.
- *CoCo/Acc
Keeps accounts for small businesses.
- *Wizlist
Maintains mail list and prints labels.

CoCoOz #18

- *Little G
Screen edit utility.
- *Orbquest
Good 32K adventure.
- *Scribbler
Scratch pad.
- *Tic-tac
Tic tac toe.
- *Primemin
Australian Prime Ministers quiz.
- *Phiraes
Earquiz.
- *Meindump
Utility to inspect mem printer/screen.

*Forthog
Forth compiler.
*Vidlabel
Video cassette label.

CoCoOz #19

*Ohms
Calculator of electrical formulae.
*Amazing
Produces a different maze everytime with a guaranteed single path through.
*Easytape
Save from disk to tape.
*40K
Switches 64K grey case CoCo so it can address 40K from Basic, also includes screen editor.
*DBase
Tape-based database. Uses 40K
*Starwars
Graphics.
*Cowboy
The fastest to the draw leaps.
*Notes
Music program. Input a note, see it on a music stave and hear it play.
*Garfield
Print-out Garfield on a C-Itoh printer.

CoCoOz #20

*Drawings
Drawing utility to help in creating draw strings.
*Keysurp
Educational program for kids to learn alphabet.
*Taxation
Calculates tax.
*Fox/Geese
Game of strategy for two players.
*TRACSEC
Copies tracks and sectors to other disks.
*Vswr
Calculates voltage for ham radio operators.
*Colors
Get more colors on PMODE 3.
*Austsong
Plays 4 chord Australian songs.

CoCoOz #21

*OS8 - The system for experimenters!
Access just under 128K on any system!
*Maze
Draws a maze on the graphics screen.
*Kalscope
Watch pretty patterns appear on your screen.
*Conjverb
A French conjunction teacher.
*Drawings
Get your favorite cartoon character onto screen.
*Lottochk
Check your lotto with this utility program.
*Timecalc
Calculates time in almost any part of the world.
*DIR
A utility designed to load a particular program.
*Three: Bob & Tino Delbourgo
A brain teaser from the "Delbourgos".
*Karbar: Keith Roach
A 32K ECB adventure where you control a small country.

CoCoOz #22

*OS8

A 64K enable module.
*4draw: Johanna Vagg
A drawing pad with a joystick.
*Faces
Draws a face.
*Skyline
Draws a city skyline.
*Counter
Counts by two, three, or whatever
*Joystick
Makes the text screen a graphics screen.
*Story
Make your own life story.
*Scrba32
A screen-print utility.
*Scrnbasn
Example of 'Scrba32'.
*Baswad
Hand assembler.
*Tax
Calculates the amount of tax due.
*Acc z
Your CoCo becomes an accountant.
*Willacc
Another great accounting program.
*Gunfight
A shoot-out game.
*Tic-Tac 3D: Bob Delbourgo
Play tic-tac-toe, in 3D.
*Hangman
Play the old favorite game of Hangman.
*CoCoSafe
Can you Crack the safe?
*Lost
Get out of the desert alive before the cannibals get you!

CoCoOz #23

*C-Change
Strategy game in getting the board all one color.
*Kidstuff: Johanna Vagg
Something for the kids to enjoy and sing with.
*Language
A quiz to test you on the language of other countries.
*Add
A simple test to add two sets of time.
*Prime
A program to teach what a prime number is.
*Taxman
Can you beat the taxman?
*Beeperoo2
An adding program for kids.
*Beeperoo3
Similar to Beeperoo2.
*Supply
Can you land your ship in the cavern without blowing up?
*Speller
Teach kids to spell in a fun way.
*Black
A new version blackboard for the CoCo.
*Area/Prime
Calculate the area and perimeter of objects.
*Firefox: Max Bettridge
Defend your city against invaders.
*Lagoon
Can you cross the crocodile infested lagoon?
*Pixel: Les & John Thurbon.
The new Pixel Logo by the "Thurbons".

CoCoOz #24

*Kaboom

Screen dump for the CGP-115.

- *One arm
Can you beat the poker machine?
- *Planet
Find out about the solar system we live in.
- *Matcher
The child's educational matching quiz.
- *MazeRace
Watch the mouse trying to get out of the maze.
- *Maze
Can you get out of the maze without crashing?
- *Destiny
What is your destiny?
- *Testype
A typing tutor and game rolled into one.
- *Tank battle
Elast each other's tanks in the field!

CoCoOz #25

PLEASE note this is APRIL's tape!

- *OS8
Getting OS8 into your system (but can you get it out again!).
- *AA
A disk utility to load your files.
- *CoCo/Mico
Converts CoCo progs to Mico progs.
- *Lil' CoCo
A picture of little CoCo.
- *Interest
Calculates the interest
- *Tune
The CoCo version of Simon says.
- *Extras
10 extra colors to use on your CoCo.
- *Beamhead
A circle calculator for ham operators.
- *Sea Bat
A naval war game.
- *Cat&Mice
Can you get to your hole before the cat gets you?
- *World64K
The world in 56 graphic pages. Bob Delbourgo
- *Pages64K
Access to 56g.p.
- *Magnet 64K
Depicts vibration of a dipole in uniform magnetic fields.
- *Engine 64K
Simulation of a diesel engine.
- *Roo Hunt
How many roos can you shoot?
- *Ephem
Find the geographical situation of the sun, stars, and planets.
- *Mexican2
The new mexican hat dance.
- *Showtime
Kaleidoscope and streets by day and night.
- *Streuth
A goodbye message.

CoCoOz #26

- *Escher
The art of drawing pictures with numbers.
- *Memotest
Can you remember the numbers that the computer gives you?
- *Catalog
A security system for filing things away.
- *Mapping
Shows the roads and weather of Tassie.
- *Banctrac
The home banking utility.

- *Lotto
Prints out a graph showing the number of times a number has been drawn.
- *5 card stud
Pit your wits against the computer.
- *Comparisons
Complete comparisons.
- *Antonyms
Type the antonym of the word displayed.
- *Plane/ep
Save Indiana Jones before the plane crashes into the mountain.
- *Track
Can you get down the skislope without crashing into the poles?
- *KeyBeep
When you press a key, CoCo beeps!

CoCoOz #27

- *Memories
Song memories recreated.
- *Flashword
A 16K adventure for children to test their recognition skills at a flashing word.
- *Pythagorus
Works out all the formulae for pythagorus' theory.
- *MLDatgen
Converts M/L data to Basic.
- *Logbook
For the ham operators.
- *Inv.2000
The inversed space invaders on screen.
- *Labelprint
Make neat and tidy labels for all purposes.
- *Wizsoc
An adventure - get free before time runs out!
- *Xrefind
A Dbase for tapes.
- *Tangle
An M/L arcade game for two players.
- *Times
Assists with multiplication.

CoCoOz #28

- *Wrdpuzl: Keith Wray
Create word puzzles using this program.
- *Qwerl: Darrel Berry
Arcade game with joystick controls a snake-like line on the screen.
- *Alien: Stuart Sanders
Space invaders-type game.
- *Sabre: Andrew Simpson
Space Game. Winner of 1984/5 competition.
- *Moveabout: Kevin Gowan
Top graphics program. Requires intelligence.
- *Labyrinth: James Redmond
Graphics adventure game (64K).
- *Advent+: Sean Lowe
Graphics adventure game for younger members of the family.
- *Shuttle: Craig Steward
Arcade game. Land your shuttle to live. (16K)
- *Quest: Craig & Kevin Springett
16K adventure.
- *Nakshlas: Steven Youngberry
16K ECB snakes & ladders game. Great!
- *Knitwit: Leonie Duggan
This program helps you design a jumper then prints out the pattern for you to knit.

CoCoOz #29

- *The Room: Herman Fredrickson

Quick on the draw entry.
 *Sunup: Herman Fredrickson
 Quick on the draw entry.
 *Symshape: Les Thurbon
 Trigonometry from Super Les.
 *UFO: Gavin Unsworth
 64K text screen arcade game.
 *Torque: Les Thurbon
 Calculations for your car by Super Les.
 *Volume: Les Thurbon
 More caluculations by Super Les.
 *PhoneDir: Dung Ly
 32K/16K ECB database for your phone directory.
 *Eureka: Michael Hartmann
 Michael's version of the flag.
 *Benars: Stuart Sanders
 16K Lo-res Towers of Benars game.
 *Letters: Jack Finnen
 32K ECB excellent game for 3-5 year olds.
 *CoCoAgro: Max Bettridge
 16K ECB game to test your patience.
 *Graphics: Grame Bennett
 16K ECB program to help you draw on CoCo's screen.
 *Landatrk: Aldo Debernardis
 16K ECB arcade game.
 *Clublist: Paul Humphreys
 The classic database for CoCo.

CoCoOz #30 The Delbourgo Issue

*Gbusters: Richard Cubitt
 64K ECB. "I ain't afraid of no ghosts!"
 *Giftword: Bob Delbourgo
 A gift with words. IQ testing.
 *Mosiacs: D&R Delbourgo
 Colorful; pretty patterns.
 *Classic: B. Delbourgo
 To help with trigonometry.
 *Tessel: B. Delbourgo
 Archemidian tessellations. (16ECB)
 *Go: B. Delbourgo
 A game of skill and logic for 2 players.
 *Shift: B. Delbourgo
 A card game of skill and strategy.
 *Numscrab: B. Delbourgo
 A numeric game of scrabble.
 *Heraldry: B. Delbourgo
 Build your family crest on the screen.
 *Lissajos: B. Delbourgo
 Contains all relevant instructions.
 *Draw: A. Hartmann
 Getting the DRAW command on a standard CoCo.
 *Shoot: Jeff Wetzig
 Target shooting.
 *Stripjak: Gordon Wilson
 An amusing game of stripjack.
 *Babysit: Johanna Vagg
 10 nurse rhythms with graphic illustrations.

CoCoOz #31

*Horse: Tom Lehane
 Quick on the draw competition entry.
 *Australia: Keith Wray
 Quick on the draw competition entry.
 *Backstreets: Joy Wallace
 Quick on the draw competition entry.
 *Impossible: Hubert Muhlbock
 Hires graphics. Find the hidden triangle.
 *Hangman: Andrew Whyte.
 Another hangman game.
 *Narzod: Max Bettridge
 A fantastic graphics game that needs a joystick.
 *Frog Race: Tom Lehane
 A race to the finish line. Good graphics.

*Kimmat: Tom Lehane
 A great card game (you vs. CoCo).
 *Mastermind: M. Robinson
 Has two levels.
 *Index Dir: Gavin Unsworth
 A 16K disk utility.
 *Horse Race: Richard Cubitt&Narelle Taylor
 A day at the races and bet your money on the horses.
 *Connect4: John Carmichael
 Self explanatory.
 *Timesave: John Carmichael
 Automatic edit on error, and also some single key commands.
 *Dodge: Justin Lipton
 Climb the ladder, dodge the falling objects, and dash to the door.

CoCoOz #32

*PageLook: Johanna Vagg
 A page flip routine.
 *World32K: Johanna Vagg
 54 pages and watch the world spin.
 *Grandpri: Doug Gray
 A great car racing game.
 *Locomotr: M D'Esterre
 Quick on the draw competition entry.
 *CoCoArt: Sandy McGregor
 Quick on the draw competition entry.
 *Kanga: Johanna Vagg
 Quick on the draw competition entry.
 *Waterwars: Justin Lipton
 Needs joystick, blow up submarines below you.
 *TapeJack: G.Slim
 A 16K disk based utility for cassette labels.
 *Caterpil: Justin Lipton
 Maneuver with your joystick to a patch of green grass.
 *NumRun: Steve Youngberry
 A dice game.
 *Cadding about: Peter Knox
 Computer aided design a verticle antennae less than a quarter wavelength long.
 *Illusion: Richard Lee
 Optical illusions.
 *Invert: Richard Lee
 Illustrates what happens when you reverse all the colors of every pixel on a particular graphics page.
 *Sleepy: Richard Lee
 Hypnotize yourself.
 *Certific: Leonie Duggan
 Write your own certificates of award.
 *Wazzdere: Steve Youngberry
 Chase little orange dots over the screen.
 *GSM 64K ECB.
 Graphics Screen Manipulator.

CoCoOz #33

*Prison: Tim Alton
 "You gotta get out, see!"
 *Pulsar: M. Forde
 You are in control of a space cruiser, and the enemy is in your sights.... so pulsar blast.
 *Christmas Card: J.Finnen
 Make and send your own christmas cards.
 *Chomper: Max Bettridge
 Use your right joystick to chase the dreaded creature.
 *Cocktails: Brian McLaughlin
 An amateur bartenders dream!
 *ToteBet: Robbie Dalzell
 A wacky horse race that's lots of fun!

- *The Boat: Sandy McGregor
Quick on the Draw Competition.
- *The Car: Darren Ottery
Quick on the Draw Competition.
- *Space Shuttle: Glen Mills
Quick on the Draw Competition.
- *PatternMaker: Johanna Vagg
A program for beginners trying to come to grips with BASIC.
- *Black and White: Richard Lee
Variables are co-ordinated for a series of boxes.
- *Square Circles: Richard Lee
A variation between circles.
- *Max: Allan Thompson
Use your CoCoMAX creation in your programs.
- *Grafix Saver: Darren Ottery
Saving graphics screens on tape!
- *Christmas Parade
A collection of brilliant christmas graphics from the Noarlunga Users Group.
- *Basic Goodies: Glen Fletcher & Paul Castelli
Demonstrates the DATA & changeing line statements.
- *Lotto: Barry Hattam
A program to help you choose your lotto numbers.

Abbreviations

ADV=Adventure, GAM=Game, BUS=Business,
 UTL=Utility, APP=Application, MUS=Music,
 DBE=Database GRF=Graphics, EDU=Education
 HEL=Program for Help section, SIM=Simulation
 DEM=Demo Program

Format is as follows:

NAME (CATAGORY): AUTHOR
 DESCRIPTION OF PROGRAM

CoCoOz #34

- * Lord Thulsa Doom (ADV): Nick Cooper
You must enter the castle of doom where the Dark Lord dwells, kill him and escape.
- * Topple (GAM): Steve Youngberry
Topple is a game in which you have to balance a stick on a table. Not as easy as it sounds.
- * Cyclone (APP): Errol Mattingly
This is an adaption of "Hurricane Tracker", which appeared in Australian Rainbow, March 1985
- * Disk (UTL): Alex Hartmann
Disk is utility designed to alter the sectors of your disk. Like a 'Disk Zap' program.
- * A Disk Zapper (UTL): Ian Clarke
This one does the same job the above does.
- * NilToDo (APP): Clive Winsall
What to do when you've got Nil to do.
- * Recovery (UTL): John Carmichael
Recovery allows you to CLOAD a program with an IO error in it, and recover it up to the point of the error.
- * CoCoDex (DBE): Clive Winsall
A database which provides an overview of our past issues of CoCoOz. Alas, we still don't have the data file for it!
- * Joypen (GRF/APP): Robbie Dalzell
Allows you to draw on the PMODE4 screen with an Atari-type joystick.

CoCoOz #35

- * Blackjack (GAM): Tom Lehane
The object of this is to win a hand by scoring more than the other player (CoCo) without going bust -
21.
- * Bankrupt (GAM): Richard Cubbit

To play this one requires that you place a bet and choosing between heads or tails.

- * Devil's Dice (GAM): Jeff Sheen
You are given four dice, each place end to end. Your job will be to get one colour, the same colour, on each of the four sides.
- * Craps (GAM): Tom Lehane
Craps is a dice gambling game; easy to learn.
- * Chuck-a-luck (GAM): Tom Lehane
This game has also been known as Sweat Cloth, Chuckerluck and more recently Birdcage. It involves three dice.
- * Dice 21 (GAM): Tom Lehane
This game is equillivant to the game of BlackJack.
- * Oz Rock '86 (GRF): Michael Hartmann
See the latest rock groups' logo, like AC/DC, Midnight Oil, INXS & The Angels.
- * Music (MUS): Bruce Mattingley
Play any one of five classical musical pieces.
- * Accounts (DBE): Graham Morphett
Our own accounts program we use in the office.
- * Quick on the draw competition entries:
 1. Sad CoCo: F. Bolle
 2. Crystal Brook: Paul Savage
 3. We make it great: Steve Youngberry
 4. Tower: C.A.Syms
 5. A Windy Day: Sarah Law
 6. Coat of Arms: Paul Hope
 7. Advance Australia: Steve Youngberry
 8. Bicycle: Patricia Foley
 9. Cooch: A. Van Der Zypp
 10. Sailing: Steve Youngberry
 11. Slow Car and Truck: KKG, Inc.
 12. Outhouse: Steve Youngberry
- * Countdown (EDU): Dean Hodgson
Countdown is a simple math drill program.
- * Rail Bridge Math (EDU): Bob Horne
Build the railway bridge by getting the math questions right!
- * Escape (EDU): Dean Hodgson
This is a number sentence problem solving game.
- * Sentence Endings (EDU): Bob Horne
Learn all about the sentence endings that are found on the ends of sentences.
- * Math Test Match (EDU): Jeff Sheen
Here we have a Basic game to drill one to ten players on math problems.

CoCoOz #36

- * Word Puzzle (EDU): Leath Muller
Everyone enjoys word puzzles... here's one more!
- * Quick on the draw graphics competition winners
 1. CoCoLoco: Max Bettridge
 2. Smurf: Johanna Vagg
 3. Sunshine State: Steve Youngberry
 4. Planes: Ssean Lowe
 5. Helicopter: Andrew White
 6. Martha: Andrew White
 7. Bad Moon Rising: Steve Youngberry
 8. MCC: Joy Wallace
 9. Eagle: Peter Coleman
- * Canon (APP): Graham Pollock
A great program for getting the intuitive feeling for chucking things in the air.
- * Dos Plus (UTL): Charels Bartlett
This basic program is designed to enhance your computer's DOS with another 3 commands.
- * Timer (UTL): David Martin
Accurately record your camera's shutter speed using your CoCo.
- * Day Planner (APP): Leonie Duggan
Plan your or someone else's day using this program.
- * Take Off (GAM): Steve Youngberry
In this one, you'll need good reflexes as well as a good memory.

- * Learning Tree (EDU): Francis Bolle
An improvement on a program from "The Advanced Home Computer Course".
- * Character (APP): Barry Hattam
Prints out a character and prints it on the printer.
- * Capital Letters (EDU): Bob Horne
Learn about capital letters using your CoCo.
- * Opalton (ADV): Ian Clarke
Adventure about opal mining; dig up as much opal as you can, get the money for it and get out of town!
- * The Car (EDU): Johanna Vagg
Draw a car using POKES from her article.
- * Tables (EDU): Pat Kermode
The program is another block graphics program for computers without ECB and developed from here.

CoCoOz #37

- * Word Pro+ (UTL): Tom Lehane
WordPro+ is a word processor and a basic program generator built into one program.
- * Delvene, Where are you (GAM): Justin Lipton
This program is based on the television show, "Sale of the Century", and is played with two players.
- * Fuel Check (APP): Mal McLaughlan
Does mum or dad want to do an economy check on the cars petrol usage and doesn't know how to do it?
- * Brain Blaster (GRF): Paul Yould
Another graphics competition entry. It is NEATO!
- * Masters (GRF): Martin Holt
Masters of the Universe is another graphics competition entry.
- * Testing-Testing (APP): Ando
Tests you on the Queensland Road Rules in readiness for your written test.
- * Lo Rez Graphics (GRF): The Ddelbourgos
Something to get the old grey matter moving and fun to watch.
- * Menu (UTL): John Carmichael
Make your next program menu look like the commercial ones.
- * CoCo Crooning (MUS): Mal McLaughlan
Two songs from the old colony days of Australia.
- * CoCo (GRF): Lauchlan Wishart
Another graphics entry.
- * More Life (APP): Bernard Besasparis
An attempt at writing machine language.
- * Bridge (GAM): Oz Wiz
Play bridge against the computer.

CoCoOz #38

- * 10 Faces (GRF): Johanna Vagg
Makes 10 different faces out of a few different facial features.
- * Pix Save (UTL): Tom Lehane
Dump a graphics picture onto a printer.
- * What Day is this? (UTL): ?
A calendar program.
- * Cunning Stunts (GRF): Dave Bentley et al
Started off as an exercise in drawing a compass rose. It is now a fascinating demonstration of graphics symmetry.
- * Catalog:Recfind:Reclabel (BUS): Tony Soar
Catalog produces a data file on tape with a set format; Recfind searches through catalog to find a record or records; and Reclabel produces a series of number tags from catalog.
- * Superannuation (BUS): Nich Starrenburg
Works out your superannuation, plus more!
- * Handicap (APP): John Wallace
Based on Addendum "F" on the AYF 1985-1989 yacht racing manual.
- * Graflock (GRF): Michael Horn

- Utility program for looking at your picture files. You can also enlarge your picture, rearrange your picture and dump your picture to the printer.
- * Zener (UTL): Charels Syms
Used to calculate the component values for zener diode shunt voltage regulator circuits.
- * To Spreadsheet or not to .. (DBE): Graham M.
More on our database.
- * Fog Horn (GRF/EDU): Paul Stevenson
A counting program for littlies.
- * Add Dice (EDU): Tom Lehane
Another counting program for the little ones.
- * Math Worksheets (EDU): Dean Hodgeson
Prints math worksheets on a DMP110 printer.
- * Story (EDU): Bob Horne + 5 White
The story written by 22 children and Bob.

CoCoOz #39

- * Snow (HEL): John Williams
Snow here, snow there!
- * Prime (HEL): Bob Ddelbourgo
Nifty little program to print up prime numbers.
- * Linemaster (UTL/GRF): Tom Lehane
A help in drawing graphics programs.
- * Underworld (GAM): Kendall Bein
You have fallen in a hole and you have arrived in ... UNDERWORLD. Now, can you get out?
- * Ludo (GAM): Steve Youngberry
CoCoLudo is much like the board game and is for 1 to 4 players.
- * DUMP+115 (UTL): Brian Bere-Streeter et al
A graphics dump utility to dump graphics pictures onto a CGP-115.
- * Climategraph (UTL): D Voutsis
.. is an exercise in rainfall statistics. It creates a graph for any part of the world and compares it with Babinda, Australia's wettest spot.
- * Breakout (GAM): Steve Youngberry
It's .. the game that never was ... !
- * Dungeon of Danger (ADV): Sean Hannon
Get out of the dungeon by attacking or avoiding the ones who live there.
- * Detective (GAM): Val Stephen
You are the detective! - you have been called to a dead body of a woman in her 30's. You are in charge!
- * Card Generator (UTL/BUS/APP): Jack Finnen
This is designed to print a set of library cards using data.
- * Long division (EDU): Bob Horne
A program designed to help grade 5 & 6 mathematics students with their studies.
- * Chatwin Manor (GAM): Bob Horne
This is a detective game that sets you the problem: Who has stolen the golden statue? Is it the maid? Is it the sister? It's up to you to find out who!
- * Spelling (EDU): John Carmichael
A program to test your spelling prowess. How good are you???

CoCoOz #40

- * Popball (GAM): Max Bettridge
A hires game for those with a good eye. Catch all the balls falling from the ceiling.
- * Frog 16K (GAM): Justin Lipton
This is the 16K version of the popular arcade game Frogger. Dodge the cars and find homes for all the frogs.
- * Llist (UTL): John Carmichael
This program allows you to list programs with a space in between each line for you to make notes.
- * Talk Hang (GAM): ?
A program that talks!!. As the name suggests, it is a version of Hangman altered for the

speech/sound pak.

- * Bomber Squad (GAM): Richard Cubitt
Your mission is bomb five houses that are posing a threat to the government. You've got five shots. Good luck!!
- * Point Setter (UTL): Justin Lipton
This program gives you the opportunity to draw intricate pictures on the screen with the joystick.
- * Stock Market (SIM): ?
This is a simulation of the stock market but with only 4 companies. You have the option of buying, selling, or passing. The game is over when the chosen number of turns is up.
- * Cluedo (GAM): Richard Cubitt
Cluedo is a game of deduction. There are five suspects, five rooms and five murder weapons. Whodunnit???
- * Hidden Treasure (ADV): Val Stephen
This adventure game gives you a number of choices for each situation. You make a choice by choosing A or B or C etc. Your task? To find the treasure.
- * Sound Maker (UTL): Ian G. Clarke
This utility lets you examine the sound making capabilities of the Coco and save the results.
- * Remove & Compress (UTL): G. McLintock
This program takes the spaces out of basic programs where they are not needed and generally streamlines the program.
- * Tape to Disk (UTL): Justin Lipton
this Utility lets you save programs, either ML or Basic, from tape to disk.
- * Cassette Catalogue System (UTL): Dave Bently
CCS. A program that enables you to get catalogues of your tapes.
- * Art Liner (UTL): G. McLintock
This is a graphics editor that works with a 480 x 570 screen and lets you save and retrieve screens from tape.
- * Talk Screen (UTL): John Wallace
A utility that is able to let you "talk" on the screen via the joystick.
- * Welcome To Maths (EDU): Leon Anderson
A little program that tests your maths knowledge and tells you when you are wrong.
- * Triominos (GAM): Bob Delbourgo
This is an adaptation of the table top game using triangular domino pieces.
- * Flash Reading (EDU): Dean Hodgson
This is a spelling helper using the flash card method, showing one card at a time.
- * Typing Teacher (UTL): Grahame Pollock
Using this program is meant to let you type better. You are given words, one by one and asked to type them. At the end you are given a words-per-minute rating.

CoCoOz #41

- * Artpad (HEL): Maurice Phillips
The idea was to use the hi-res screen as an art pad using your joystick.
- * Johanna Vagg Collection (HEL):
 1. Xylophone: Music by numbers & colours.
 2. Tables: Be tested on the times table
 3. Graphics: Fun with graphics
 4. Quota: A spelling program
 5. Playing: Playing with music
- * Sword Quest (ADV): Andrew Hart
Sword quest is text a adventure that may or may not take about 10-15 minutes to get through.
- * Peace (GRF): D. Voutsis
The first entry to the International Year of Peace competition.
- * Big Money (GAM): Mal McLaughlan
An appealing story-line that combines colourful

graphics, musical effects and a nifty maths routine.

- * Slide (UTL/DEM): C. Bartlett
A number slide game using a different approach.
- * Bandit (UTL/DEM): C. Bartlett
Play the Pokies using a different approach.
- * Busted (UTL/DEM): C. Bartlett
Your TV is busted ...
- * Take your best shot (GAM): Aldo Debernadis
Golf, anyone?
- * Lotto (UTL): G. Lewis
The nitty gritty of choosing your pool numbers.
- * Old & Future Print (UTL): David Law
An adaption of "Bigprint" from January 1984's Rainbow. Will print in 'futuristic' and in 'old english' style writing.
- * Matchem (GAM): C. Bartlett
The hi-res version of "Concentration".
- * Flippin' Heck (GAM): C. Bartlett
Based on the game of "Othello".
- * Quest (ADV): Andrew McLintock
This is a D&D type adventure game where you destroy the evil magician.
- * Jigsaw (GAM): C. Bartlett
If you like jigsaw puzzles, then this is for you! The NeverEnding Jigsaw will keep you happy.
- * Taboo (GAM): Tom Lehane
The once popular word game of taboo is here again!
- * Hot (UTL): G. Adamczewski
The downloadable character set for the Star Gemini 10X.
- * TapeSort (UTL): Ray Hendry
Your own tape directory program.
- * Word Usage (EDU): Dean Hodgson
A simple word usage exercise program.
- * Tables 2&3 (EDU): Bob Horne
Run off your own tables sheets and have an inter-class maths tables competition.

CoCoOz #42

- * Tank Battle (GAM): Craig Stewart
Have a tank battle with your opponent in this hi-res screens. Added feature: you can customize your game, ie number of bullets, scenery, etc.
- * Intruder (GAM): Stuart Sanders
A space invaders-type game.
- * Gopher (GAM): Steve Youngberry
Gopher is all about jumping on gophers - there are ten of them and appear one at a time. Can you get them?
- * U-Boat (SIM): Andrew McLintock
A simulation based on the German U-boats of WW2. Sink as much allied shipping as possible.
- * Colour Draw (UTL): Craig Stewart
Get 16 colours in PMode 3 without a CoCo 3!
- * Not One (GAM): Tom Lehane
Not One is a fast-paced dice game that is played by one or two person. Your opponent? CoCo, on a hi-res screen.
- * Flora & Fauna (UTL): Stuart Sanders
In Fauna, find out what you killed on the table. In Flora, find out what plant the one in the corner is.
- * Hexadecimal Monitor (UTL): Jim Jacobs
Change the contents of your computers RAM with this program.
- * Cockathree (UTL): Colin Bartlett
Adds some of the CoCo 3's abilities to the CoCo2.
- * Startrek (GAM): Andrew Voutsis
Rid the galaxy of the Klingons.
- * Shootout (GAM): Craig Stewart
Winner of the games competition! 100 % machine language.
- * Chase (GAM): Stuart Sanders
Avoid the '#' with your joystick or get eaten!

CoCoOz #43

- * Solgans Escape (ADV): Craig Springett
Your goal here is to rescue Solgan from the
dungeon and save your people from an inter-tribal
war!
- * Rockfall (GAM): T.J. Davies
Avoid the falling rocks. Fast graphics!
- * True Love (APP): Martha Gritwhistle
Find your true love using this program.
- * Donkey (GAM/UTL): Stuart Sanders
Save high scores in your game of Donkey King.
- * Drivers Dream (MUS): Steve Youngberry
The tune of the "Drivers Dream".
- * Shoots (GAM): Emiliano Molina
Get the baddies in the police station in the year
2000.
- * Peace (GRF): Fred Remin
An entry to the "International Year of Peace"
competition.
- * Cat & Mouse (GRF): Michael Bell
Two graphics quickies showing a cat & a mouse.
- * Frog Mater (GAM): Darren Ottery
You are a frog with it's only ambition in life is
eating all the 'Y's without meeting the 'O'
- * TV Trivia (GAM): Barry Sidebottom
The game of 'Trivial Pursuit', only all questions
to it relate to TV shows.
- * Navigation Plot (UTL): Keith Wray
Gives the navigational positions of major towns
graphically..
- * Townatak (GAM): Sean Hannan
Land your plane safely by bombing the city below.
- * Frequency Counter (UTL): Gordon Thurston
This should appeal to the ham and electrical
enthusiast.
- * Lines (GRF): Ando
Stunning effects using just LINE statements.
- * Gryphon (GAM): James Redmond
This uses 'Sprite Graphics' & clever applications
of the PLAY statement to make this game sound &
look good!
- * Inventory (APP/UTL): Steve Issanchon
Take inventory of your house when you move.
- * Numerology (APP): Tom Lehane
The art of numerology on the CoCo.
- * Tape Catalog (UTL): Craig Stewart
A tape cataloging program for all you tape users
out there.
- * Calendar (UTL/APP): David Law
Print out your very own calendar for 1987! Or
1988! Or 1989! Or ...
- * Mad Editor (EDU/GAM): Tom Lehane
Our editor has done it again! Maybe you can do a
better job editing his text!
- * Questions (EDU): Leon Anderson
Some question from the educational workbook.

CoCoOz #44

- * Viabasic (UTL): Richard Rogers
A basic telecommunications program to access
Viatel with.
- * Graphics (GRF): Ando
A demonstration in graphics.
- * Retire (UTL): Brain Grey
"How much would I have to save each year so I
could retire with a million dollars?"
- * Letterhead (UTL): Johanna Vagg
Use different letterheads when you write your next
letter!
- * Grafplot (APP): Michael Hartmann
Used to design anything from sheds to tennis
courts!
- * Labelmaker (UTL): Michael Hartmann
Prints out index cards for cassette. (Very simple

- to operate!)
- * DMP-110 (UTL): Brian Bere-Streeter
Choose one from 27 different fonts for the DMP-110
and then run your selected program.
- * Oyez! (APP): Mal McLaughlan
A simple, eye-catching way to show instructions,
title pages, etc
- * Printex 4 (UTL): Keith Echberg
Don't worry about going over the edge when
printing with your DMP-110 anymore.
- * Bin-Bas (UTL): D.W. Thurbon
This is useful for saving chunks of memory out to
the disk as a numbered basic program.
- * File Display (UTL): K Paterson
Allows you to KILL, RUN & Display your disk files.
- * Micro Files (DBE): Graham Pollock
A database program for the CoCo & the MiCo.
- * Log-Math (UTL): D.W. Thurbon
Will give you the logarithm of any number given.
- * Form Fill (APP): D. Bourne
An exercise in filling out forms (job
applications, etc).
- * Bird Register (APP/UTL): Ron Simpkin
Keeps a record of your birds.
- * CoCo 3 (DEM): D. Moreton
Our first program for the CoCo 3.
- * CoCoMusic (MUS): David Sitsky
Allows you to play music using the entire
keyboard.
- * Quadsolve (APP/UTL/EDU): Mal McLaughlan
Check your work after you complete that quadratic
equasion.
- * Spelling Quota (EDU): Johanna Vagg
A spelling program set in hi-res graphics.
- * Music for Orchestra-90 CC: Michael Monck
 1. Axel F
 2. Popcorn
 3. If I were a Richman
 4. Fur Elise

CoCoOz #45

- * Hi Dice (GAM): Tom Lehane
Fast-paced dice game
- * Operation Babarossa (SIM): Victor Koss
Reinacts Hitlers attack on the Soviet Union in WW
II.
- * Biorhythm (APP):
Program for the CoCo 3 that reads your biorhythms
for any time, any day.
- * Light Cycles (GAM): Jamie Cameron
Try to corner your opponent in this graphics game.
- * File (DAT): D.R. Messer
A simple database program to create a sequential
file and then save it to tape.
- * Drawsave (UTL/GRF): Mal McLaughlan
A utility to make "Fourdraw" patterns in brilliant
lo-res colours.
- * Animation (UTL/GRF): Johanna Vagg
Animation on a low-res screen.
- * Samuri (GRF): Tom Lehane
A picture of a Japanaese Samuri Warrior.
- * Zard (GAM): Scott Binning
You have been sent to the planet of Doom where the
evil Zard has taken over.
- * Devilsh Tricks (GAM): Bob Debourgo
A modified version of the game "Bridge".
- * 23 (GAM): George & Eleen Aftermonow
The CoCo version of the game '23 Matches'.
- * Tatslotto Checker (APP): Barry Sidebottom
Program to check your lotto coupon.
- * Crystal (ADV): Colin North
A graphics adventure with your aim being in
getting out & home.

softgold

Editor: Barry Cawley
For your Tandy 1000 or your I.B.M. P.C.

AIR RAID



by Leigh Borkut

On the T1000 this game is great!
On the T2000 with its faster CPU, the game is positively devastating!

Leigh shows just how simple it is to create a fun game using very simple BASIC.

The program is a good one for new computer users to try, or for some of you more experienced programmers to use as a base for something even more ambitious.

The Listing:

```
1 ' Air Raid
2 ' by Leigh Borkut
3 GOTO 10
4 SAVE "AIR RAID"
5 END
10 WIDTH 40 :KEY OFF:X2=1:X3=1:X4=1:D=2:
SC=10:X=18:Y=15:WE=38:P=1
20 TR=VAL(RIGHT$(TIMES,2)):RANDOMIZE TR
30 Y2=INT(RND(1)*36)+2:Y3=INT(RND(2)*28)
+3:Y4=INT(RND(3)*32)+2
40 IF Q$=CHR$(0)+"M" THEN LOCATE X,Y:PR
INT" ":Y=Y+3:LOCATE X,Y:PRINT R$:SOUND4
500,.5
50 LOCATE 10,12:PRINT"A I R - R A I D"
60 LOCATE 12,12:PRINT"by Leigh Borkut"
70 IF Y<3 THEN LOCATE X,Y:PRINT" ":Y=Y
+3:LOCATE X,Y:PRINT R$
80 COLOR 7,0:CLS
90 LOCATE 4,5:PRINT"The idea of AIR RAID
is to defend"
100 LOCATE 5,5:PRINT"two major missile b
ases."
110 LOCATE 7,10:PRINT"Right cursor";CHR$(
26)
120 LOCATE 8,10:PRINT"Left cursor";CHR$(
27)
130 LOCATE 9,10:PRINT"(Space Bar) to fir
e"
140 LOCATE 15,13:PRINT"GOOD LUCK!!"
150 FOR W=1 TO 8500:NEXT
```

```
160 SCREEN 0,0,0:COLOR 14,0
170 R$="-+":CLS
180 LOCATE 23,1:PRINT STRING$(39,177):C=
0:E=0
190 BASE$=CHR$(219)+CHR$(220)+CHR$(219)
200 LOCATE 22,10:PRINT BASE$:LOCATE 22,2
7:PRINT BASE$
210 Q$=INKEY$
220 LOCATE X,Y:PRINT R$
230 IF Q$=CHR$(29) THEN LOCATE X,Y:PRIN
T" ":Y=Y-3:LOCATE X,Y:PRINT R$:SOUND 4
500,.5
240 IF Q$=CHR$(28) THEN LOCATE X,Y:PRINT
" ":Y=Y+3:LOCATE X,Y:PRINT R$:SOUND 45
00,.5
250 IF Q$=" " THEN 510
260 IF D=0 THEN LOCATE 10,15:PRINT"Game
Over":GOTO 740
270 IF Y<3 THEN LOCATE X,Y:PRINT" ":Y=
Y+3:LOCATE X,Y:PRINT R$
280 IF Y>36 THEN LOCATE X,Y:PRINT" ":Y
=Y-3:LOCATE X,Y:PRINT R$
290 LOCATE X2,Y2:PRINT" ":X2=X2+1:LOCATE
X2,Y2:PRINT CHR$(25)
300 IF C=0 THEN IF C2>21 AND Y2=10 OR X2
>21 AND Y2=11 AND Y2=12 THEN LOCATE 22,1
0:PRINT STRING$(3,32):SOUND 400,2:D=D-1:
C=1:GOTO620
310 IF E=0 THEN IF X2>21 AND Y2=27 OR X2
>21 AND Y2=28 OR X2>21 AND Y2=29 THEN LO
CATE 22,27:PRINT STRING$(3,32):SOUND 400
,2:D=D-1:E=1:GOTO 620
320 IF X2>21 THEN SOUND 200,1:SC=SC-5:GO
TO 620
330 LOCATE X3,Y3:PRINT" ":X3=X3+1:LOCATE
X3,Y3:PRINT CHR$(25)
340 IF C=0 THEN IF X3>21 AND Y3=10 OR X3
>21 AND Y3=11 OR X3>21 AND Y3=12 THEN LO
CATE 22,10:PRINT STRING$(3,32):SOUND 400
,2:D=D-1:C=1:GOTO 660
350 IF E=0 THEN IF X3>21 AND Y3=27 OR X3
>21 AND Y3=28 OR X3>21 AND Y3=29 THEN LO
```

```

CATE 22,27:PRINT STRING$(3,32):SOUND 400
,2:D=D-1:E=1:GOTO 660
360 IF X3=22 THEN SOUND 200,1:SC=SC-5:GO
TO 660
370 LOCATE X4,Y4:PRINT" ":X4=X4+1:LOCATE
X4,Y4:PRINT CHR$(25)
380 IF C=0 THEN IF X4>21 AND Y4=10 OR X4
>21 AND Y4=11 OR X4>21 AND Y4=12 THEN LO
CATE 22,10:PRINT STRING$(3,32):SOUND 400
,2:D=D-1:E=1:GOTO 700
390 IF E=0 THEN IF X4>21 AND Y1=27 OR X4
>21 AND Y4=28 OR X4>21 AND Y4=29 THEN LO
CATE 22,27:PRINT STRING$(3,32):SOUND 400
,2:D=D-1:E=1:GOTO 700
400 IF X4=22 THEN SOUND 200,1:SC=SC-5:GO
TO 700
410 LOCATE 24,15:COLOR 0,7:PRINT USING"S
core ####";SC;:COLOR 7,0
420 IF P=1 AND SC>250 THEN LOCATE X,Y
:PRINT" ":X=X-1:LOCATE X,Y:PRINT R$:P=
2
430 IF P=2 AND SC>500 THEN LOCATE X,Y
:PRINT" ":X=X-1:LOCATE X,Y:PRINT R$:P=
3
440 IF P=3 AND SC>750 THEN LOCATE X,Y
:PRINT" ":X=X-1:LOCATE X,Y:PRINT R$:P=
4
450 IF P=4 AND SC>1000 THEN LOCATE X,Y
:PRINT" ":X=X-1:LOCATE X,Y:PRINT R$:P=
5
460 IF P=5 AND SC>1500 THEN LOCATE X,Y
:PRINT" ":X=X-1:LOCATE X,Y:PRINT R$:P=
6
470 IF P=6 AND SC>2000 THEN LOCATE X,Y
:PRINT" ":X=X-1:LOCATE X,Y:PRINT R$:P=
7
480 IF P=7 AND SC>2500 THEN LOCATE X,Y
:PRINT" ":X=X-1:LOCATE X,Y:PRINT R$:P=
8
490 IF P=8 AND SC>3000 THEN LOCATE X,Y
:PRINT" ":X=X-1:LOCATE X,Y:PRINT R$:P=
9
495 IF P=9 AND SC>3500 THEN LOCATE X,Y
:PRINT" ":X=X-1:LOCATE X,Y:PRINT R$:P=
1
498 IF P=10 AND SC>4000 THEN LOCATE X,Y:
PRINT" ":X=X-1:PRINT R$:P=0
500 GOTO 210
510 LOCATE X,Y:PRINT STRING$(3,176):S=S
-2:SOUND 97,2:LOCATE X,Y:PRINT R$
520 IF X=X2 AND Y=Y2 THEN SOUND 200,1:SO
UND 250,2:PRINT" ":SC=SC+62:GOTO 620
530 IF X=X2 AND Y=Y2-1 THEN SOUND 200,1:
SOUND 250,2:PRINT" ":SC=SC+62:GOTO 620
540 IF X=X2 AND Y=Y2-2 THEN SOUND 200,1:
SOUND 250,2:PRINT" ":SC=SC+62:GOTO 620
550 IF X=X3 AND Y=Y3 THEN SOUND 200,1:
SOUND 250,2:PRINT" ":SC=SC+62:GOTO 660
560 IF X=X3 AND Y=Y3-1 THEN SOUND 200,1:
SOUND 250,2:PRINT" ":SC=SC+62:GOTO 660
570 IF X=X4 AND Y=Y4-2 THEN SOUND 200,1:

```

```

SOUND 250,2:PRINT" ":SC=SC+62:GOTO 700
580 IF X=X4 AND Y=Y4 THEN SOUND 200,1:
SOUND 250,2:PRINT" ":SC=SC+62:GOTO 700
590 IF X=X3 AND Y=Y3-2 THEN SOUND 200,1:
SOUND 250,2:PRINT" ":SC=SC+62:GOTO 660
600 IF X=X4 AND Y=Y4-1 THEN SOUND 200,1:
SOUND 250,2:PRINT" ":SC=SC+62:GOTO 700
610 GOTO 260
620 LOCATE X2,Y2:PRINT" "
630 X2=1:Y2=INT(RND(2)*36)+2
640 LOCATE X2,Y2:PRINT CHR$(25)
650 GOTO 210
660 LOCATE X3,Y3:PRINT" "
670 X3=1:Y3=INT(RND(3)*28)+3
680 LOCATE X3,Y3:PRINT CHR$(25)
690 GOTO 210
700 LOCATE X4,Y4:PRINT" "
710 X4=1:Y4=INT(RND(4)*32)+2
720 LOCATE X4,Y4:PRINT CHR$(25)
730 GOTO 210
740 END

```

BOX DEMO



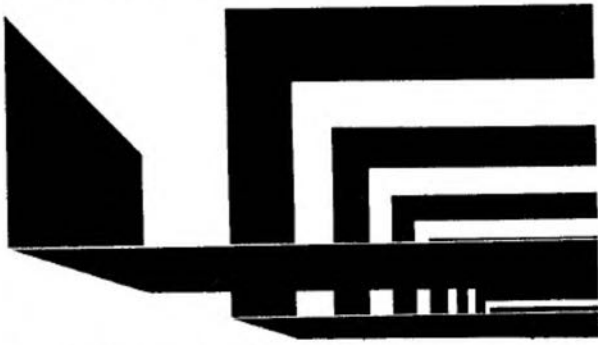
by David Bowater

```

1 'Box Demonstration
2 'By David Bowater
3 GOTO 10
4 SAVE"BOX DEMO"
5 END
10 CLS:PRINT:PRINT:PRINT,,"Box Demonstra
tion"
20 PRINT:PRINT:PRINT,"Arranged for the T
1000 by"
30 PRINT:PRINT,"David Bowater from an ar
rangement"
40 PRINT:PRINT,"for the Color Confuser"
50 PRINT:PRINT," Press Any Key To Beg
in"
60 I$=INKEY$:IF I$="" THEN 60
110 KEY OFF
120 SCREEN 1,1
140 X1=(RND*400)-1
150 Y1=(RND*257)-1
160 X2=(RND*400)-1
170 Y2=(RND*257)-1
180 C=(RND*5)-1:IF C=1 THEN 180
190 COLOR C,1
200 IF (RND*2)=2 THEN 210
210 LINE-(RND*X1,RND*Y1),RND*1,B,&HDB6D
220 LINE-(RND*X2,RND*Y2),RND*9,BF
230 GOTO 190

```

PATTERN



The following program shows how to easily create pattern fill for painting in any shape you create on screen.

MASKMAKE

by Barry Cawley

Maskmake is a very interesting program which gives you an insight into the use of a mouse. The program need not only be restricted to those of you with a mouse, as with a little effort on your part it can be converted to a joystick or to use with the arrow keys. To do this just take out the calls to the mouse routine and replace them with your own joystick or keyboard routines.

When you have finished it, how about sending it in to us and we will reprint it for others who may not be as capable as you are.

MaskMake will start off by changing to screen 2 and clearing the screen, it will then draw a grid on the screen, which you can then move the cursor around in. When you press the button the program will fill in the box on the grid and also light the relevant pixel on the right hand side of the grid.

The overall effect of this is that on the one screen you can see an enlarged version of what you are drawing and also the normal version, or if you prefer the normal drawing and the miniturized version.

I wrote this program when I was doing some fine graphics work, and wanted to add an enlargement routine to enable me to draw more accurately. This program was the test version of the function.

The Listing:

```
10 CLS
15 DIM X$(50)
20 DEF SEG=0
30 MSEG=256*PEEK(51*4+3)+PEEK(51*4+2)
40 MOUSE=256*PEEK(51*4+1)+PEEK(51*4)+2
50 IF MSEG<>0 AND MOUSE<>2 THEN 70
60 PRINT "MSMOUSE Driver not Found":END
70 DEF SEG=MSEG
80 ' Initialize the Mouse
90 M1%=0
100 CALL MOUSE(M1%,M2%,M3%,M4%)
110 IF NOT(M1%) THEN PRINT "MSMOUSE driver not installed":END
120 ' Define the Software Cursor
130 M1%=10: M2%=0: M3%=&HFFF: M4%=&H770
0
```

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The Listing:

```
1 SCREEN 1
10 B$=CHR$(8)+CHR$(8)+CHR$(&HAA)+CHR$(&H20)+CHR$(&H20)+CHR$(&HAA)
20 CIRCLE(130,80),30,1
30 PAINT(135,85),B$,1
40 A$=CHR$(&HFF)+CHR$(&HE7)+CHR$(&HC3)+CHR$(&H81)+CHR$(&H81)+CHR$(&HC3)+CHR$(&HE7)+CHR$(&HFF)
50 LINE(30,30)-(60,60),1,B
60 PAINT(35,35),A$,1
390 IN$=INKEY$:IF IN$="" THEN 390
400 SCREEN 0,0,0:COLOR 6,0:WIDTH 80:LIST
```

```
140 CALL MOUSE(M1%,M2%,M3%,M4%)
150 'START OF PROG
160 FOR LOOP=0 TO 256 STEP 16
170 LINE(LOOP,0)-(LOOP,128):NEXT
180 FOR LOOP=0 TO 128 STEP 8
190 LINE(0,LOOP)-(256,LOOP):NEXT
200 M1%=7:M3%=0:M4%=256
210 CALL MOUSE(M1%,M2%,M3%,M4%)
220 M1%=8:M3%=0:M4%=128
230 CALL MOUSE(M1%,M2%,M3%,M4%)
240 M1%=1:CALL MOUSE(M1%,M2%,M3%,M4%)
250 M1%=4:M3%=100:M4%=60
260 CALL MOUSE(M1%,M2%,M3%,M4%)
270 M1%=3
280 CALL MOUSE(M1%,M2%,M3%,M4%)
290 IF M2%=1 THEN GOSUB 500:PAINT(M3%,M4%),1:GOSUB 600:GOSUB 700
295 IF M2%=2 THEN GOSUB 800
300 GOTO 270
500 M1%=2:CALL MOUSE(M1%,M2%,M3%,M4%):RETURN
600 M1%=1:CALL MOUSE(M1%,M2%,M3%,M4%):RETURN
700 A=INT(M3%/16)+400
710 B=INT(M4%/8)+10
720 PSET(A,B)
730 RETURN
800 FOR B=10 TO 25
810 FOR A=400 TO 415
820 X=POINT(A,B)
822 X$(B)=X$(B)+STR$(X)
830 NEXT: NEXT
840 FOR B=10 TO 26:PRINT X$(B):NEXT
850 'CONVERSION TO HEXIDECIMAL
860 FOR B=10 TO 25
880 AA=VAL(MID$(X$(B),2,1))*32768!
882 AB=VAL(MID$(X$(B),4,1))*16384
884 AC=VAL(MID$(X$(B),6,1))*8192
886 AD=VAL(MID$(X$(B),8,1))*4096
888 AE=VAL(MID$(X$(B),10,1))*2048
890 AF=VAL(MID$(X$(B),12,1))*1024
892 AG=VAL(MID$(X$(B),14,1))*512
894 AH=VAL(MID$(X$(B),16,1))*256
896 AI=VAL(MID$(X$(B),18,1))*128
898 AJ=VAL(MID$(X$(B),20,1))*64
900 AK=VAL(MID$(X$(B),22,1))*32
902 AL=VAL(MID$(X$(B),24,1))*16
904 AM=VAL(MID$(X$(B),26,1))*8
906 AN=VAL(MID$(X$(B),28,1))*4
908 AO=VAL(MID$(X$(B),30,1))*2
910 AP=VAL(MID$(X$(B),32,1))*1
920 AQ=AA+AB+AC+AD+AE+AF+AG+AH+AI+AJ+AK+AL+AM+AN+AO+AP
930 PRINT HEX$(AQ)
940 NEXT
```

ANOTHER DATABASE?

by Greg Wilson

This database has done the rounds here for years!

I'm representing it because, 1 it is simple to use & 2, it is simple to use!

This version is a recently completed conversion from the CoCo to MS DOS - & no we are not moving our systems to MS DOS - the job was done as an exercise in preparation for the new CoCo!

The edit and data input functions work well in this version, however as we have not used the printout routines, there may be some minor errors there still.

Printer codes are those for the DMP 130 set up in the Epson compatible mode.

Feel free to phone for assistance should you require it!

The Listing:

```

1  '*** NA *** AGENT & NEWSAGENTS FILES**
   ** 26/3/85 ** CONV FROM COCO 6/9/86**
   *** From a Program by Greg Wilson ***
   * 'Rearranged & made better in many *
   *ways by Graham Morphett & friends! '*
2  CLS:GOTO 10
3  SAVE"NA$gold.BAS":FILES
4  I$=INKEY$:IF I$="" THEN 4 ELSE RUN
5  '1-ALLOCATION:2-OWNER:3-BUS NAME:4-STR
   EET:5-TOWN:6-PCODE:7-PHONE:8-B/CARD:9-CO
   MMENTS:10-LABELS:11-MARKER:12-CURRENT:13-
   30TO60:14-60+
10  CLEAR 5000:DIM NA$(15),A$(14),B$(14),
   A(14):CLS:PRINT TAB(1),"AGENTS & NEWSAGE
   NTS"
15  '***** Main Menu *****
20  PRINT"M MAIN MENU":PRINT"P PRINT A/
   CS FILE":PRINT"E EDIT A/Cs FILE":PRINT"
   S SPECIAL LABEL":PRINT"A ADD TO ACS FI
   LE"
30  PRINT"T TANDY SEARCH":
40  I$=INKEY$:IF I$="" THEN 40
50  CLS:IF I$="P" OR I$="p" THEN 630 ELSE
   IF I$="E" OR I$="e" THEN 80 ELSE IF I$=
   "A" OR I$="a" THEN 460 ELSE IF I$="S" OR
   I$="s" THEN 490
55  IF I$="T" OR I$="t" THEN 1800
60  'IF I$="M" THEN RUN"A:0"
70  GOTO 10
75  '***** Edit Accounts *****
80  PRINT TAB(17)"A/C # A";:INPUT L:GOSUB
   1020:GET#2,L
90  Y=0:X=0:N=0:W$=CHR$(17):LOCATE 1,1:PR
   INT TAB(3)"A/C # A";L;:FOR T=12 TO 14:Y=
   Y+VAL(NA$(T)):NEXT T:PRINT TAB(24)"OWING
   $";Y:PRINT:PRINT" F F I N I S H
   C C L E A R"
92  PRINT"L L A B E L W EXCHAN
   GE"
95  PRINT"R BACK ONE X NEXT
   ":PRINT"H HELP"
110  PRINT:PRINT"E ";NA$(1);W$:PRINT"A ";
   NA$(2);W$:PRINT"N ";NA$(3);W$:PRINT"S ";
   NA$(4);W$:PRINT"T ";NA$(5);W$;" "":GOSUB
   B 1080:PRINT ST$:PRINT "P ";NA$(6);W$:PR
   INT"U ";NA$(7);W$:PRINT"B "":GOSUB 443:P
   RINT"O ";NA$(9);W$
120  PRINT"Q ";NA$(10);W$:TAB(10)"% ";NA$
   (11);W$
125  PRINT"1.CURRENT 2.30-60
   3.60+"
130  LOCATE 19,1:PRINT NA$(12);W$:LOCATE
   19,15:PRINT NA$(13);W$:LOCATE 19,30:PRIN
   T NA$(14);W$:FOR T= 12 TO 14:NA=NA+ VAL(
   NA$(T)):NEXT T:PRINT "Total: ";NA:NA=0
150  I$=INKEY$:IF I$="" THEN 150 ELSE IF
   I$="F" OR I$="f" THEN 1070 ELSE IF I$="L
   " OR I$="l" THEN 860
155  IF I$="W" OR I$="w" THEN 1600
160  IF I$="H" OR I$="h" THEN GOSUB 1220:
   CLS:GOTO 90
170  IF I$="C" THEN FOR T=1 TO 14:LSET NA
   $(T)="":NEXT T:LSET NA$(6)="9000":GOTO 9
   0
180  IF I$="X" OR I$="x" THEN PUT#2,L:L=L
   +1:GET#2,L:LL=LL+1:CLS:GOTO 90
190  IF I$="X" THEN L=L-1:CLS:LOCATE 12,
   25:PRINT"END OF FILE":FOR T=1 TO 500:NEX
   T:GOTO 90
200  IF I$="R" OR I$="r" THEN PUT#2,L:L=L
   -1:GET#2,L:CLS:LL=LL-1:GOTO 90
210  'LOCATE 22,1:PRINT I$;" ";
230  IF I$="E" OR I$="e" THEN LOCATE 8,3:
   N=1:GOTO 360
240  IF I$="A" OR I$="a" THEN LOCATE 9,3:
   N=2:GOTO 360
250  IF I$="N" OR I$="n" THEN LOCATE 10,3
   :N=3:GOTO 360
260  IF I$="S" OR I$="s" THEN LOCATE 11,3
   :N=4:GOTO 360
270  IF I$="T" OR I$="t" THEN LOCATE 12,3
   :N=5:GOTO 360
280  IF I$="P" OR I$="p" THEN LOCATE 13,3
   :N=6:GOTO 360
290  IF I$="U" OR I$="u" THEN LOCATE 14,3

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:N=7:GOTO 360
295 IF I$="B" OR I$="b" THEN LOCATE 15,3
:N=8:GOTO 360
310 IF I$="O" OR I$="o" THEN LOCATE 16,3
:N=9:GOTO 360
311 IF I$="Q" OR I$="q" THEN LOCATE 17,3
:N=10:GOTO 360
312 IF I$="%" THEN LOCATE 17,12:N=11:GOT
O 360
313 IF I$="1" THEN LOCATE 19,1:LINE INPU
T X$:LSET NA$(12)=X$
314 IF I$="2" THEN LOCATE 19,15:LINE INP
UT X$:LSET NA$(13)=X$
315 IF I$="3" THEN LOCATE 19,30:LINE INP
UT X$:LSET NA$(14)=X$
330 GOTO 90
340 LOCATE 22,1:PRINT I$;" ";:LINE INPUT
X$:IF X$="" THEN X=1
350 RETURN
360 LINE INPUT X$:LSET NA$(N)=X$:GOTO 90
440 ' *****Credit Card Encoding **
*****
443 Z$=NA$(8):IF RIGHT$(Z$,1)="M" THEN P
RINT"5163-";MID$(Z$,2,4);"-";MID$(Z$,6,4
);"-";MID$(Z$,10,4);"MASTERCARD";:RETURN
446 IF RIGHT$(Z$,1)="V" THEN PRINT"4564-
";MID$(Z$,2,4);"-";MID$(Z$,6,4);"-";MID$
(Z$,10,4);"VISA";:RETURN
448 IF LEFT$(NA$(8),3)="496" THEN PRINT
LEFT$(NA$(8),3);"-";MID$(NA$(8),4,2);"-
";MID$(NA$(8),6,3);"-";RIGHT$(NA$(8),6):R
ETURN
449 PRINT NA$(8):RETURN
450 ' ***** Account Additions *****
460 CLS:IF KK=1 GOTO 90 ELSE GOSUB 1020:
GOSUB 620:L=(LOF(2)/256)+1:PRINT TAB(6)"
NEW ACCOUNT          A/C NO: A";L
470 PRINT:PRINT"ALLOCATION: ";:LINE INPU
T A$(1):IF LEN(A$(1))>30 THEN 470
480 IF LEFT$(A$(1),2)="XX" THEN L=LOF:GO
TO 10
490 PRINT"OWNER: ";:LINE INPUT A$(2):IF
LEN(A$(2))>30 THEN 490
500 PRINT"BUSINESS NAME: ";:LINE INPUT A
$(3):IF LEN(A$(3))>30 THEN 500
510 PRINT"NO & STREET: ";:LINE INPUT A$(
4):IF LEN(A$(4))>30 THEN 510
520 PRINT"TOWN: ";:LINE INPUT A$(5):IF L
EN(A$(5))>17 THEN 520
530 PRINT"PCODE: ";:LINE INPUT A$(6):IF
LEN(A$(6))>4 THEN 530
540 IF I$="S" OR I$="s" THEN 580
550 PRINT"PHONE NUMBER: ";:LINE INPUT A$
(7):IF LEN(A$(7))>12 THEN 550
570 PRINT"CREDIT CARD: ";:LINE INPUT A$(
8):IF LEN(A$(8))>14 THEN 570
580 IF I$="S" OR I$="s" THEN L=0:N$=A2$:
S$=A3$:T$=A4$:P$=A5$:GOSUB 870:GOTO 10
590 PRINT"COMMENTS: ";:LINE INPUT A$(9):
IF LEN(A$(9))>30 THEN 590
600 PRINT"NUMBER OF LABELS: ";:LINE INPU
T A$(10):IF LEN(A$(10))>2 THEN 600

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605 PRINT"% CLASSIFICATION: ";:LINE INPU
T A$(11):IF LEN(A$(11))>1 THEN 605
610 CLS:PRINT L:FOR Y=1 TO 14:LSET NA$(Y
)=A$(Y):PRINT NA$(Y):NEXT Y:PUT#2,L
615 CLOSE :GOTO 10
620 RETURN:'FOR L=1 TO 199:GET#2,L:IF NA
$(6)="9000" THEN RETURN
625 NEXT L
626 CLS:PRINT"NO ROOM LEFT IN EXISTING F
ILES";:GOTO 626
629 '***** Printer Routines *****
630 CLS:PRINT TAB(4)"PRINTER ROUTINES":P
RINT:PRINT"N      NUMERICAL ORDER ":PRINT"P
      POST CODE SEARCH "
640 PRINT"L LABELS - SINGLES ":PRINT"D
      LABELS - DUPLICATES":PRINT"      IN
      PUT CODE"
650 I$=INKEY$:IF I$="" THEN 650 ELSE IF
I$="N" THEN 670 ELSE IF I$="P" THEN 770
ELSE IF I$="L" OR I$="D" THEN 1280
655 'IF I$="T" OR I$="A" THEN 1700
660 GOTO 10
665 '***** Print List *****
670 CLS:INPUT"START #";S:INPUT"FINISH #
";F:PRINT"S PRINT TO SCREEN":PRINT"P PR
INT TO PRINTER"
680 P$=INKEY$:IF P$="" THEN 680 ELSE IF
P$="s" OR P$="p" THEN 690 ELSE 680
690 IFB=0THENB=1
695 IFP$="p" THEN INPUT"DATE";DA$:LPRINT
:LPRINT CHR$(27);CHR$(15);CHR$(14);TAB(3
2)"ACCOUNTS";CHR$(15):LPRINT DA$
700 IF P$="p" THEN GOSUB 760
702 GOSUB 1020
705 IF S=0 THEN S=1
706 IF F=0 THEN F=(LOF(2)/256)
710 L=LL-1:FOR I=S TO F:L=L+1:GET#2,1:IF
NA$(6)="9000" THEN NEXT I:GOTO 745:ELS
E GOSUB 1080:LPRINT"A";I;:FOR T=1 TO 4:L
PRINT NA$(T):NEXT T:LPRINT NA$(5);ST$;"
";:NA$(6);:IF P$="p" THEN LPRINT " ";N
A$(7);TAB(50)NA$(12);TAB(75)NA$(13);TAB(
100)NA$(14)
715 H=0:FOR T=12 TO 14:H=H+VAL(NA$(T)):A
(T)=A(T)+VAL(NA$(T)):NEXT T
720 IF P$="p" THEN LPRINT TAB(123)H:LPRI
NT:PP=PP+6:IF FP>=60 THEN FOR Y=1 TO 5:L
PRINT:NEXT Y:GOSUB 760:PP=0
730 IF P$="s" THEN PRINT:PRINT:PP=PP+1:I
F PP=2 THEN PRINT STRING$("*",31);:LINEI
NPUT C$:PRINT:PRINT"PRESS 'XX' TO EXIT";
:IF C$="XX" THEN 750 ELSE PRINT:PP=0
740 NEXT I
745 IFP=2THENPRINT#-2,TAB(25)"TOTALS : "
;TAB(50)A(12);TAB(75)A(13);TAB(100)A(14)
;:A=A(12)+A(13)+A(14):PRINT#-2,TAB(120)A
:A=0:FOR T=12TO14:A(T)=0:NEXTT
750 CLOSE:GOTO 10
759 '*****Post Codes*****
760 LPRINT TAB(50)"CURRENT";TAB(75)"30-6
0 DAYS";TAB(100)"60 + DAYS";TAB(125)"TOT
AL $":RETURN

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softgold

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770 CLS:LL=0:L=1:PRINTTAB(8)"POST CODE SEARCH":PRINT:INPUT"LOW NUMBER";LN:INPUT"HIGH NUMBER";HN:GOSUB 1020
780 FOR LL=1 TO (LOF(2)/256)
790 GET#2,LL:IF VAL(NA$(6))=>LN AND VAL(NA$(6))<=HN THEN PRINT "A";LL;:GOSUB 820:GG=GG+1:IF GG=2 THEN GOSUB 1260:GG=0
800 NEXT LL:CLOSE
810 I$=INKEY$:IF I$="" THEN 810 ELSE 10
820 GOSUB 1080:FOR T=1 TO 4:PRINT NA$(T):NEXT T:PRINT NA$(5);ST$;" ";NA$(6):PRINT:RETURN
850 '***** Print Labels *****
860 PUT#2,L:LOCATE 22,1
870 GOSUB 1080:INPUT"ENCLOSE ";OS$
880 A$=NA$(1)
890 LPRINT CHR$(15);"A";LL;A$
900 LPRINT OS$:LPRINT
910 FOR T=2 TO 4:LPRINT CHR$(14);NA$(T):NEXT T
920 LPRINT CHR$(27);"-";CHR$(1);NA$(5);:IF I$="S" THEN LPRINT " ";
930 LPRINT ST$;" ";NA$(6);CHR$(27)"-";CHR$(0);CHR$(15)
940 CLS:FOR TT=1 TO 2:LPRINT:NEXT TT:IF I$="S" OR I$="s" OR I$="LB" OR I$="lb" OR I$="D" OR I$="d" THEN RETURN
950 GOTO 90
1020 '***** OPEN FILES *****
1030 IF L=0 THEN L=1:LL=L
1040 OPEN "R",2,"AGNT.DAT",221
1050 FIELD#2,30AS NA$(1),30AS NA$(2),30AS NA$(3),30AS NA$(4),17AS NA$(5),4AS NA$(6),12AS NA$(7),14AS NA$(8),30AS NA$(9),2AS NA$(10),1AS NA$(11),7AS NA$(12),7AS NA$(13),7AS NA$(14)
1060 RETURN
1070 PUT#2,L:CLOSE#2:GOTO 10
1079 '***** Afix State *****
1080 ST$="":P$=NA$(6):IF LEFT$(P$,1)="2" THEN ST$="NSW"
1085 IF P$="2630" OR P$="2632" THEN 1160
1090 IF P$ > "2600" AND P$<"2629" OR P$ > "2900" AND P$ < "3000" THEN ST$="ACT"
1100 IF LEFT$(P$,1)="3" THEN ST$="VIC"
1110 IF LEFT$(P$,1)="4" THEN ST$="QLD"
1120 IF LEFT$(P$,1)="5" THEN ST$="SA"
1125 IF P$ > "5750" AND P$ < "6000" THEN ST$="NT"
1130 IF LEFT$(P$,1)="6" THEN ST$="WA"
1140 IF LEFT$(P$,1)="7" THEN ST$="TAS"
1150 IF LEFT$(P$,1)="9" THEN ST$="SPARE"
1160 RETURN
1180 GOSUB1020:LL=0
1190 FORL=1TOLOF(2):LL=LL+1:GET#2,L:IFLEFT$(NA$(6),1)="9" OR LEFT$(NA$(1),1)=CHR$(255)THEN1210
1200 NEXT:CLOSE#2:RETURN
1210 KK=1:RETURN
1219 ' ***** Help Files *****
1220 CLS:PRINT TAB(13)"CODES"
1230 PRINT:PRINT"R: RAINBOW":PRINT"I: CO
```

```
CO":PRINT"A: ADVERTISER":PRINT"PERCENTAGES 1=25%":PRINT TAB(12)"2=40%"
1232 PRINT"Z: COCOOZ":PRINT"T: RAINBOW ON TAPE"
1233 PRINT
1235 PRINT"DELIVERY DOCKETS ONLY:":PRINT" W: RAINBOW":PRINT" C: COCO"
1240 GOSUB 1260
1250 CLS:PRINT TAB(6)"OTHER CODES":PRINT"VISA AND MASTERCARD ARE":PRINT"INDICATED BY DELETING THE FIRST":PRINT"THREE NUMBERS, AND BY FINISHING":PRINT"WITH A 'V' OR A 'M'"
1260 II$=INKEY$:IF II$="" THEN 1260 ELSE RETURN
1270 GOSUB 1260:RETURN
1279 '***** Multiple Labels *****
*****
1280 CLOSE:LPRINT CHR$(27)";":GOSUB1020:CLS:INPUT"ENCLOSURE";OS$:INPUT"START #";S:IF S=0 THEN S=1
1285 INPUT"FINISH #";F:IF F=0 THEN F=(LOF(2)/256)
1290 FOR L=S TO F:GET#2,L
1300 IF I$="L" THEN GOSUB 1360:GOTO 1350
1310 FOR T=1 TO VAL(NA$(10))
1320 GOSUB 1360
1330 NEXT T
1350 NEXT L:LPRINT CHR$(18):RUN
1360 LPRINT "A";L;NA$(1)
1365 LPRINT OS$:LPRINT CHR$(27);CHR$(14):FOR BL=2 TO 4:LPRINT NA$(BL):NEXT BL
1370 GOSUB 1080:LPRINT CHR$(27);"-";CHR$(1);NA$(5);" ";ST$;" ";NA$(6);CHR$(27)"-";CHR$(0)
1375 LPRINT:LPRINT:RETURN
1600 '***EXCHANGE ROUTINE***
1610 LOCATE 23,1
1620 INPUT"ACCOUNT TO BE EXCHANGED";EX
1625 IF EX=0 THEN 390
1630 FOR T=1 TO 14:A$(T)=NA$(T):NEXT T
1633 L1=L
1635 GET#2,EX:FOR T=1 TO 14:B$(T)=NA$(T):NEXT T
1640 FOR T=1 TO 14:LSET NA$(T)=A$(T):NEXT T:PUT#2,EX
1650 FOR T=1 TO 14:LSET NA$(T)=B$(T):NEXT T:PUT#2,L1
1660 GOTO 90
1800 '*****TANDY SEARCH*****
1810 GOSUB 1030:INPUT"STORE NUMBER";N$
1820 FOR L=200 TO (LOF(2)/256)
1825 GET#2,L:IF LEFT$(NA$(2),4)=N$ THEN 90
1830 NEXT L
1835 PRINT"Store not found"
1840 PRINT"PRESS <ENTER> TO RETURN"
1845 I$=INKEY$:IF I$="" THEN 1845 ELSE CLOSE#2:RUN
```

User Group Contacts

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

ACT:
 CANBERRA NTH JOHN BURGER 062 58 3924
 CANBERRA STH LES THURBON 062 88 9226

NSW:
 SYDNEY:
 BANKSTOWN CARL STERN 02 649 3793
 BLACKTOWN KEITH GALLAGHER 02-627-4627
 CARLINGFORD ROSKO MCKAY 02 624 3353
 CHATSWOOD BILL O'DONNELL 02 419 6081
 CLOYTON HERMAN FREDRICKSON 02 6236379
 FAIRFIELD ARTH PITTARD 02 72 2881
 GLADESVILLE MARK ROTHWELL 02 817 4627
 HILLS DIST ARTHUR SLADE 02 622 8940
 HORNSBY ATHALIE SMART 02 848 8830
 KENTHURST TOM STUART 02 654 2178
 LEICHHARDT STEVEN CHICOS 02 560 6207
 or GORGE ECHEGARAY 02 560 9664
 LIVERPOOL LEONIE DUGGAN 02-607-3791
 MACQUARIE FIELDS

BARRY DARTON 02 618 1909
 SUTHERLAND IAN ANABEL 02 528 3391
 SYDNEY EAST JACKY COCKINOS 02 344 9111
 ALBURY RON DUNCAN 060 43 1031
 ARMIDALE DOUG BARBER 067 72 7647
 BLAXLAND BRUCE SULLIVAN 047 39 3903
 BROKEN HILL TERRY MOONAN 080 88 2382
 CAMDEN KEVIN WINTERS 046.66.8068
 COFFS HARBOUR BOB KENNY 066 51 2205
 COOMA ROSS FLATT 0648 23 065
 COORANBONG GEORGE SAVAGE 049 77 1054
 COOTAMUNDRA CHERYL WILLIS 069 42 2264
 DENILIQUIN WAYNE PATTERSON 058 81 3014
 DUBBO GRAEME CLARKE 068 89 2095
 FORBES JOHANNA VAGG 068 52 2943
 GOSFORD PETER SEIFERT 043 32 7874
 GRAFTON PETER LINDSAY 066 42 2503
 GUYRA MICHAEL J. HARTMANN 067 79 7547
 JUNEE PAUL MALONEY 069 24 1860
 KEMPSEY RICK FULLER 065-62-7222
 LEETON BRETT WALLACE 069-53-2081
 LISMORE ROB HILLARD 066 24 3089
 LITHGOV DAVID BERGER 063 52 2282
 MAITLAND BILL SNOW 049 66 2557
 MOREE ALF BATE 067 52 2465
 MUDGEE BRIAN STONE 063-72-1958
 NAMBURCA HDS WENDY PETERSON 065 68 6723
 NARRONINE GRAEME CLARKE 068 89 2095
 NEWCASTLE LYN DAVSON 049 49 8144
 NOWRA ROY LOPEZ 044 48 7031
 ORANGE JIM JAMES 063 62 8625
 PARKES DAVID SMALL 068 62 2682
 PORT MACQUARIE RON LALOR 065 83 8223
 SPRINGWOOD DAVID SEAMONS 047 51 2107
 TAWORTH ROBERT WEBB 067 65 7256
 TAHMOOR GARY SYLVESTER 046 81 9318
 UPPER HUNTER TERRY GRAYVOLL 065 45 1698
 URALLA FRANK MUDFORD 067 78 4391
 WAGGA WAGGA CES JENKINSON 069 25 2263
 WYONG JOHN WALLACE 043 90 0312

NT:
 DARWIN BRENTON PRIOR 089.81.7766

QLD:
 BRISBANE:
 BIRKDALE COLIN NORTH 07 824 2128
 BRASSALL BOB UNGWORTH 07 201 8659
 CLAYFIELD JACK FRICKER 07 262 8869
 COLL'WOOD PK AND'W SIMPSON 07 288 5206
 IPSWICH MICK MURPHY 07 271 1777
 PINE RIVERS BARRY CLARKE 07 204 2806
 SOUTH WEST BOB DEVRIES 07 375 3161
 SANDGATE MARK NICHOLL 07 269 3846
 SCARBOROUGH PETER MAY 07 203 6723
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