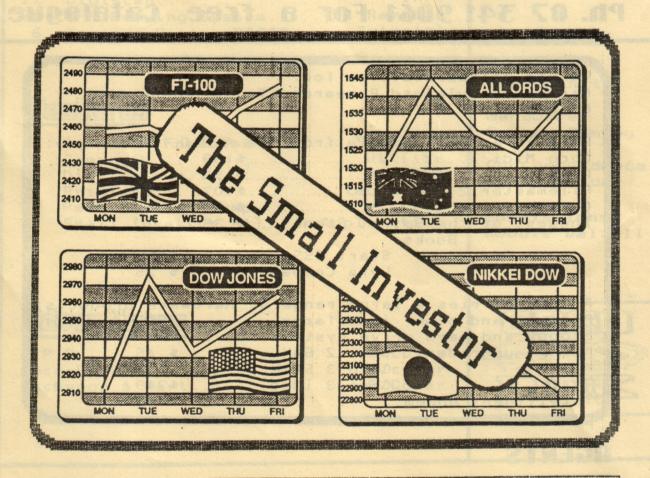


The Color Computer Magazine



Featuring:

The Small Investor Pt.1 Digiscan Preview Disk Set-up 2 Super PD Disks

Australian Feripheral Idevelopments

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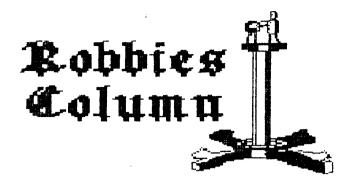
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We are representatives for: Microcom, Rulaford Research, Triad/Sundog and Computer Hut Software. Here is a small sample from the A.P.D. Catalogue: Coco Midi.....\$199 Lyra.....\$ 93 Filemaster 2.21.....\$107 Coco Max III..... \$ 78 Inquest of the Spirit Stone...\$ 35 Books: Start 089....\$ 52 Lyra Companion....\$ 25 A.P.D. carries a large range of hardware products: Printer and other interfaces..........POA Floppy and hard drive systems......POA Memory upgrades: Coco 2 64K..... \$ 45 Coco 3 512K.....\$149 Coco 3 1Meg.....\$349 Intelligent Modem . .

MGENTS

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Ingleburn
NSW 2565
Ph. 02 829 2410



TANDY USA PULLS THE PLUG ON THE COCO!!!

Tandy in the USA has discontinued the Coco 3. Although this move does not come as a surprise, it still has shock value.

Here in Australia we are immune to the shockwaves which will be wafting through Coco Users across the United States. We have been through it all already. In fact it is nearly two years since Tandy discontinued the Coco in Australia and, as the readers of this magazine can see, we still have a viable Coco community.

However, this decision will have a bearing on the whole Coco Community in the long run. The writers and distributers of Coco material will slowly drop out of the market. Color Computers will be replaced by Amigas and suchlike. I do not know how this will affect the US Rainbow Magazine but, let me put it this way, I wouldn't renew my subscription on an annual basis.

Rainbow magazine runs on the finance generated by advertising. I am sure this will take a severe drop over the next few months as developers move into other fields. COCO-LINK on the other hand runs on the finance generated by subscriptions and therefore, as long as we have enough subscribers and people continue to submit articles and programmes, COCO-LINK will carry on.

The main thing is not to be panicked into any rash moves. Just remember that we carried on after abandonment and our American couterparts, of which there are about 3 million, will do the same thing.

If your computer does the things that you want it to do then there is no need to change it. If on the other hand you find it will not do what you want it to, and you can't get the software or hardware to get it to do these things, well then you have to put on your thinking cap and make some decisions.

Anyway, COCO-LINK will carry on as usual and I repeat the promise I have always made regarding this magazine. This magazine will not fold without giving all subscribers at least 6 months notice.

INDEPENDANT PROGRAMME CHECKING

"When you write a programme, especially a longish one, you tend to lose sight of your goals. It needs someone

outside to eye your programme critically." So said George McLintock in a letter he wrote outlining various areas of my "Small Investor" programme. I had sent a copy of the programme to George to have a look at it and give me his opinion and comments. He reckoned that the programme required a bit of work.

The review was an honest appraisal of the programme I had sent him. The critical exposition which resulted was enough to make me start on a complete rewrite of the programme. It now does more than it did originally and is much shorter and faster.

Much of the advice on the file structures was of such a nature that it will make a good item for the "Better Basic" column in the future when we have time to collate it into article format.

I have not carried out all the suggestions that George made in his letter or carried out other things in the exact manner he proposed but, for all that, I am sure that the programme is now far more viable.

This brings me to the point that, when writing larger programmes, it pays to show them to some independant knowledgeable person for their views and comments. Don't be surprised if they are not all complementary. Here at COCO-LINK we have provided this service for a few people and I am sure they and the programmes have gained from it.

There is one other piece of advice I could pass on in relation to checking out and debugging your programmes. Rather than hand your programme around with annoying little bugs in it, I recommend that you let your chidren, or someone elses, play with it for a few hours.

Believe me, if there are any bugs in the programme the children will find them.

CREDIT CARDS

The suggestion has been put to us time and again that we should have a credit card facility whereby subscriptions etc. could be paid direct to COCO-LINK.

Apart from the fact that there are a plethora of different credit cards and we would be obliged to cover most of them, the cost would be far in excess of any gain to either COCO-LINK or its subscribers.

It has got to be realised that not only do the card holders pay vastly excessive interest rates in the region of 24-25%, but the vendor also pays a percentage of the sale to the bank. In the case of a small operator like COCO-LINK this could be in the region of 7-10%

Needless to say all these extra costs would mean that COCO-LINK would have to increase prices once again (Already having increased them this month. See elsewhere in this magazine).

As a final deterent, going through credit cards would also create more work for the already overworked and unpaid duo at COCO-LINK.

CASH AND SUBSCRIPTIONS

As an adjunct to the above I would like to make this special request. PLEASE DO NOT put cash, either notes or coins in envelopes to COCO-LINK. We can accept no responsibility for cash which goes missing in the post. We have had two occasions where mail with cash has disappeared in transit. It should be noted that banknotes in envelopes can be detected in the postal system and not all of our civil servants are completely honest.

If it is too much of a problem to send smaller amounts, under \$10.00 say, as money orders or cheques then please send postage stamps. (43 cent ones preferably....unused of course).

A SMALLER COCO-LINK

COCO-LINK is slightly smaller this issue. This is not a money saving device, it is the direct result of finding ourselves in the position of not having enough material to sustain 30 to 32 pages over a period of time.

We must have enough material on hand at all times to be able to plan at least two magazines ahead.

I implore you, if you have any material for the magazine, send it in now.

EXCHANGE AND MART

Following a suggestion from one of our readers I am proposing to start an Exchange and Mart column in COCO-LINK. This service will be FREE!

Anyone with something to sell or who would like to exchange or are looking for items, should write to COCO-LINK and we will advertise them in the new column. Please keep them as short as possible. Include your phone number or contact address so as interested persons can contact you direct.

Adverts would have to be received by at least the 7th of the month preceding publication. Also remember that, as COCO-LINK is a bi-monthly magazine, there will be a delay before you get any action.

Still, it does mean that you will be dealing with the people most likely to be interested in your Coco gear.

COMPETITION TIME

I have been cleaning out the cupboard in my office and have come across a number of tape programmes which I will be divesting myself of. I have decided to donate these tapes as a prize for a competition. There are 19 tapes covering a wide variety of subjects. These tapes are all original tapes...not copies, and they have not been previously used.

The competition is for what Garry and I feel is the most interesting programme, article, hint or tip, or whatever which is received at COCO-LINK before the 28th October 1991. All submissions which wish to be entered in the competition MUST be marked "COMPETITION".

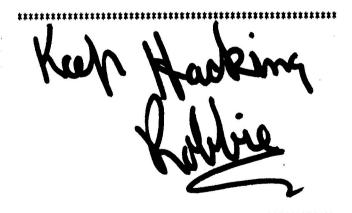
Because the prize is a collection of cassette tapes does not mean that the entries must be tape based. All material regardless of the medium used or written for will be considered.

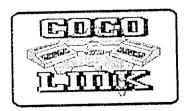
You can submit as many entries as you like as long as each is marked "COMPETITION" and is received before the stipulated date.

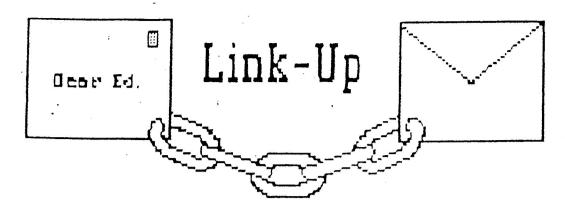
The Nineteen tapes are as follows:

Sceptre of KzirgaAdventure
Madam RosaAdventure
Calixto IslandAdventure
Rainbow WriterApplication
StatgrafApplication
CC CalcApplication
TIMSApplication
Mathpack 1Education
Moby MathsEducation
Circus adventureEducation
CricketGame
8 Ball
StarfireGame
Space ShuttleGame
Graphic AnimatorGraphics
FacemakerGraphics
ComposerMusic
Typing TutorTutorial
SqueezeUtility

Get your brain into gear and let's see what you can come up with. You've got a whole 3 months to get as many entries in as possible.







Dear Ed

I look forward to receiving your magazine in the mail, and hope the day comes when it comes out monthly.

I read somewhere that the Microsoft greeting on the screen at startup can be changed with a poke program to a greeting of my own liking. I'm sure others would like it, perhaps a reader can help.

Here's wishing you a bumper year ahead.

Sam Thompson. Biggera Waters. QLD.

I am afraid COCO-LINK will not become a monthly due to many factors which have been reiterated many times before.

Some DOS's allow you to configure the start-up screen so as a new message comes up on boot but apart from that I think any change would have to be burned into the DOS chip.

It is possible to change the startup massage and alter the type of cursor on a Coco3 or a Coco2 in all RAM mode but this has to be done each time the computer is booted. The addresses for these changes are:

Dear Ed,

I congratulate you on a very useful and informative magazine and, at the same time, would like to bring something to your attention.

I have been trying unsuccessfully to get my hands on RASCAN and the associated software, and if anyone out there has it for sale please let me know by mail; c/- Box 711, Liverpool. NSW 2170

Anyway, I wrote to the inventor Nicholas Merentes, and he informs me that he is in the process of refining the system and it will be called DIGI-SCAN. He also asks that I let everyone know that it will be coming on the market. If you would be kind enough to print this letter I would appreciate it.

It appears DIGI-SCAN will depend on the amount of interest shown, so anyone who may be interested can write to Nicholas Marentes. Box 6551, Upper Mt Gravatt. QLD 4122.

I have been in touch with Nickolas Marentes and he has kindly written an article explaining the DIGI-SCAN. You can find this article elsewhere in this magazine.

Dear Ed.

At last I have time to reply to your Software Ordering System.

I am interested in simulation type of programs, e.g. I have FLIGHT SIM II by Sublogic, SUB BATTLE by sPYX. The MICROSCOPIC MISSION by Activision.

Family wise I would be interested in any education programs. I dread to think that my CoCo2 and CoCo3 are at the end of their time, so in some way I am reluctant to spend too much on it, but I want to spend enough on it to keep it going as a second computer in the family when I upgrade to something bigger.

I understand there are other disks to go with CoCo Graphics Designer, and other disks to go with Flight Sim II. These, money willing, would interest me.

Sad to read in your column that subscribers (some), are not renewing. Maybe a section could advertise their equipment and/or programs for sale, as I guess if they have been into CoCo computing for any amount of time, they might/must just have that part of equipment or program someone has been looking for.

I know that with my magazines and programs, I have more than enough now... and yet I feel I still need more programs. I guess I feel that having invested this much in my equipment, I need to spend just that little bit more (pocket and wife willing).

I am writing this on DESKMATE 3 a program that I have had great satisfaction with. I have put it to good use as a genealogy program so that lists another area that I am interested in. Actually about 1985 I wrote to you from Woomera for information on such a genealogical program. You responded promptly and included a copy of the Noarlunga Computer Club's magazine, but I didn't have the set up then as I have now. For that previous contact, Robbie, and the effort of you and your friends for COCO-LINK. I thank you all.

Ron Munro, Nth Richmond, NSW

Thank you for the words of encouragement. I hope SOS will be able to help you find something to your liking.

I think it pays to keep in mind that if your computer Does all the things you require of it, it is pointless to go to the expense of changing to a different system.

I am following your suggestion on a free exchange and Mart column for those who want to dispose of gear or are looking for something.

The column makes a start in this edition.

I have 'Screen Print Routine'(Cat No 26-3021). This program I can get to work on my CoCo3. Another I have is 'Graphic Screen Print' program (GSPRG).

The second doesn't work with my CoCo3 and DMP 132 printer. I notice that GSPRG is supposed to work with a TRS 80 CoCo and line printer VII or VIII.

PROBLEM: How can I get a bigger picture dump with Screen Print Routine; or how can I get GSPRG to work with my present equipment, and make use of the bigger picture available.

Another question. Is it possible to somehow 'copy' a program Pak to a disk, and get it to work?

Ron Munro, Nth Richmond, NSW

Dear Ed,

I think the magazine is great, keep it up, PLEASE!
The CoCo definitely has its place in the computer world.
It is no match for the super-media IBM compatibles that dominate the computer world today. But, hey, it was never trying anyway. To put things into perspective the only drawback with the CoCo is its speed.

Speaking of IBM compatibles I have a programme which allows transfer of files between IBM and CoCo. It also supports other formats of OS-9. (Standard, Japanese, CoCo).

A basic program can be transferred relatively easily in ASCII. The file transfer also allows transfer between OS-9 and RS-DOS. I purchased this programme directly from Granite Computer Systems (USA), the advert appeared in American Rainbow, and I paid Aust \$103.00 all up.

CoCo is a great hobby, I only wish I could spend more time at the keyboard. Unfortunately CoCo comes second to my career; (work, study, work, study, work..).

My double sided drives only worked as single sided drives in RS-DOS until I found tip in 'Hints And Tips' in COCO-LINK August 1990; this saved a lot of searching.

Sinistaar is a must for SOS. I would be your first on that one.

Fraser Johnson. Gorokan. NSW.

Dear Ed,

I've just received my June copy of COCO-LINK, thanks; on of DL LOGO. At the OS9 prompt type reading quickly through it I've noticed George McLintock

is putting out PD Software on tape. Congratulations for this service as I have been hoping this would be done for quite a while, as 31% of your clients are tape users, even though I now possess a disk drive, this is wonderful news.

Also the addition to 'Running Writing' is greatly appreciated, as I've typed in the listing of the original program, and this will enhance it no end.

Graham Elphick. St. Marys. NSW

Dear Ed.

COCO-LINK are incorrect).

I was most disappointed in the April COCO-LINK to see that my BBS wasn't listed in the CoCo supporting BBS list on the Noticeboard. One point worthy of note (I think anyway), is the fact that PCCCBBS is the only BBS run on a CoCo and supports only the CoCo & OS9, so when people log on they don't have to go looking for their area. Due to the running of the BBS and other commitments I never got round to printing this letter, until after the June/July issue. Rather than this letter being a complaint as originally intended, (as PCCCBBS is listed again) I am sending a list of 'confirmed' CoCo supporting BBS's and their correct numbers (as some in the June/July

A couple of Boards have dropped the CoCo areas due to lack of activity, and others have gone off-line perminately for reasons of their own. I hope you will include this list in the COCO -LINK Noticeboard so people won't be disappointed calling non-supporting Boards or wrong numbers.

Stan Blazejewski. Parkdale. Vic. (Sysop PCCCBBS).

The Noticeboard page is included in each issue for the use of subscribers and clubs to post information. We at COCO-LINK only format the information for use in the page therefore errors are not necessarily ours.

Thank you for your ammended list. It has been included in this issue.

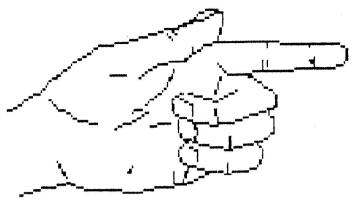
Dear Ed,

Keep up the production of COCO-LINK. I find the magazine to be very informative in Link-up and handy hints when published.

I was reading an old copy of COCO-LINK (Dec 1990) in Link-up somebody else was having trouble with DL LOGO loading on a Coco3 so I was not on my own with this problem. I tried a lot of ways to get it loaded and found a way similar to that of Laurie O'Shea.

Boot OS) Level 1 version2 fully in drive 0. When the OS9 prompt appears, remove the OS9 disk and insert your copy of DL LOGO. At the OS9 prompt type

CONTINUED PAGE 23



By Keiran Kenny

Cursor Control

Programs that use key-presses to move a flashing cursor around the screen very often use "keyboard rollover bit" techniques. Don't ask me where the name comes from, but try this short listing.

- O 'ROLOVERA
- 10 PMODE4, 1: COLORO, 5: PCLS: SCREEN
- 20 X=128: Y=96
- 30 IFPEEK(341)=247THENY=Y-1 'up
- 40 IFPEEK(342)=247THENY=Y+1 'dow n arrow
- 50 IFPEEK(343)=247THENX=X-1 'lef t arrow
- 60 IFPEEK(344)=247THENX=X+1 'rig ht arrow
- 70 IFY<OTHENY=0
- 80 IFY>191THENY=191
- 90 IFX<OTHENX=0
- 100 IFX>255THENX=25.5
- 110 PSET(X,Y):FORDL=1TO100:NEXT: PRESET(X,Y)
- .120 GOTO30

The main advantage of this procedure is that, as long as you hold down an arrow-key, the cursor will move in the direction of the arrow and will stop moving as soon as you release the key. You can find a full list of the keyboard rollover bits in Microcom's 500 POKES PEEKS 'N EXECS (page 17).

For diagonal cursor-movement, hold down a vertical and a horizontal arrow key together. In lines 210 - 240 of my

program PIXGRID (April '91), I used alphabet keys to get diagonal movement but you could delete those lines and combine arrow keys for the same result. The delay loop in line 110 makes the cursor more visible and allows better control of its movement.

Save this listing as ROLOVERA.

For another method of getting cursor movement try the PEEK(135) technique. Enter this listing.

- O 'PEEK135A
- 10 PMODE4, 1: COLORO, 5: PCLS: SCREEN 1, 1
- 20 X=128: Y=96
- 30 PK=PEEK(135)
- 40 IFPK=94THENY=Y-1
- 50 IFPK=10THENY=Y+1
- 60 IFPK=8THENX=X-1
- 70 IFPK=9THENX=X+1
- 80 IFY<OTHENY=0
- 90 IFY>191THENY=191
- 100 IFX<OTHENX=0
- 110 IFX>255THENX=255
- 120 PSET(X,Y):FORDL=1TO100:NEXT: PRESET(X,Y)
- 130 GOTO30

If you press a key while a program is running, its ASCII value is stored in memory position 135 and will remain there until you press another key. Thus, a single tap on the up-arrow key will set the cursor moving upwards and it will keep moving until you tap another arrow key to change direction or any other key to stop its movement. Save this listing as PEEK135A.

In both of these programs you are locked in a perpetual loop. The action in both will loop between line 30 and the last line forever unless you do something to break out of the loop and make your cursor do something useful.

Change ROLOVERA as follows.

70 IFY<10THENY=10

80 IFY>181THENY=181

90 IFX<10THENX=10

100 IFX>245THENX=245

102 IFINKEY\$=CHR\$(32)THEN200

200 CIRCLE(X, Y), 10

210 K\$=INKEY\$:GOTO30

Now move the cursor around and then hit the spacebar to draw a circle centered on the cursor. Move the cursor somewhere else and - oops! you just punched a hole in the circumference of your circle. To avoid this add a line:

104 BG=PPOINT(X, Y)

Then change the PRESET(X,Y) at the end of line 110 to PSET(X,Y,BG).

The flashing cursor will now not damage your circle.

For variety let's break out of the loop and draw an oval and a square. You can have only one INKEY\$ statement (as in line 102) in a loop like this, but PEEK(135) will serve. But note that the PEEK(135) statements must precede any INKEY\$ statement in the loop.

Add the following lines.

62 IFPEEK (135)=12THEN300

64 IFPEEK (135)=13THEN400

300 POKE135, 0: CIRCLE(X, Y), 10,,.5

310 GOTO30

400 POKE135, 0: LINE(X-10, Y-10)-(X

+10, Y+10), PSET, B

410 GOTO30

Press CLEAR to draw an oval or ENTER to draw a square. Save this listing as ROLOVERB.

In PEEK135A you will have to add extra code to get diagonal movement. To do so, and get the breakout options as in ROLOVERB, make the following changes.

71 IFPK=81THENY=Y-1: X=X-1

72 IFPK=87THENY=Y-1: X=X+1

73 IFPK=65THENY=Y+1: X=X-1

74 IFPK=83THENY=Y+1: X=X+1

75 IFPK=32THEN200

76 IFPK=12THEN300

77 IFPK=13THEN400

80 IFY<10THENY=10

90 IFY>181THENY=181

100 IFX<10THENX=10

110 IFX>245THENX=245

112 BG=PPOINT(X, Y)

120 PSET(X, Y): FORDL=1TO100: NEXT: PSET(X, Y, BG)

130 GOTO30

200 POKE135, 0: CIRCLE(X, Y), 10

210 GOTO30

300 POKE135, 0: CIRCLE(X, Y), 10, , .5

310 GOTO30

400 POKE135, 0: LINE(X-10, Y-10)-(X +10, Y+10), PSET, B

410 GOTO30

Tap Q for movement north-west, W for north-east, A for south-west and S for south-east.

The POKE135,0 statements restore the normal value in position 135 (zero), otherwise you would be locked in a perpetual loop again.

These programs work much the same as a joystick program, but where possible I prefer key-presses as I think they give better control and more positive responses than a joystick.

END

HOW TO SUBMIT MATERIAL TO COCO-LINK

PROGRAMMES: On tape or disk.

At least two copies should be on the tape/disk one of which should be saved in ASCII format.

Where possible include a description of your prodgramme saved as below for articles.

MI PROGRAMMES:

These require Source code saved on a suitable word processor. Two copies should be made.

A working copy of the programme should be included for checking by COCO-LINK.

ARTICLES:

At least one copy saved in ASCII format plus one copy on a commercial word processor where possible. (VIP Writer etc.)

HINTS AND TIPS:

Hand written or typed is acceptable.

Tutorial/Utility

HELENE FILLINGS for Computer Programming

By Robbie Dalzell

A computer is definitely at it's best when it is number crunching. In most programmes we find the need to use some sort of calculation or formula. It is a good idea to collect a disk/cassette full of these formulae for future use. It can save a lot of time and hassle trying to remember what you did the last time when you have a file of ready made formulae, one of which might be the answer you are looking for.

Here are a few short routines to get you started which cover a wide variety of number crunching functions. Keep them for future reference and add to them as you go.

1) Given two variables ${\bf A}$ and ${\bf B}$, exchange the values assigned to them.

A A E 721 463

- 10 A=721: B=463
- 20 T=A
- 30 A=B
- 40 B=T
- 50 PRINT A.B

2) Given N numbers (0-100) make a count of all numbers above 50.

55,42,77,63,29,57,89

- 10 M=CURRENT NUMBER ABOVE 50
- 20 I=CURRENT NUMBER
- 30 N=7
- 40 FORX=1TO N
- 50 IF I(X)>50 THEN M=M+1
- 60 NEXT
- 70 PRINT M

3) Given N numbers, add them and give resultant sum.

421,523,714

- 10 N=NUMBERS TO ADD (3)
- 20 A=CURRENT NUMBER
- 30 S=SUM AT END
- 40 FORX=1 TO N
- 50 S=S+A(X)
- 60 NEXT
- 70 PRINT S

4) Take a positive integer and reverse the order of it's digits.

INPUT 27953 OUTPUT 35972

- 10 N=INTEGER
- 20 I = LEN(N)
- 30 S=CURRENT NUMBER
- 40 T=FINAL RESULT
- 50 FORX=1 TO I
- 60 NI=INT(N/10)
- 70 S=N-NI*10
- 80 N=NI
- 90 T=T*10+S
- 100 NEXT
- 110 PRINT T
- 5) Find the highest number in a set of N numbers.

Ex. 8,6,5,15,7,19,21,6

- 10 N=AMOUNT OF NUMBERS
- 20 A=CURRENT NUMBER
- 30 B=MAXIMUM NUMBER

100 FORI=1 TO N

110 IFA(I)>B THEN B=A(I)

120 NEXT

130 PRINT B

6) Remove duplicates from an ordered array and contract array accordingly.

e.g. Before 2,2,8,15,23,23,23,26,29,30 After 2,8,15,23,26,29,30

10 N=SIZE OF ARRAY

20 J=CURRENT COUNT OF UNIQUE NOs

30 A=CURRENT PAIR

100 FORI=1 TO N

110 IFA(I-1)<>A(I) THEN A(J)=A(I): J=J+1

120 NEXT

130 FORI=1 TO J

140 PRINTA(I)

150 NEXT

7) Given N numbers, compute factorial (ie multiply) of all numbers.

1 X 2 X 3 X 4 X 5

- 10 N=NUMBER OF DIGITS TO MULTIPLY
- 20 T=TOTAL AT END=(T=1)
- 30 P=CURRENT NUMBER
- 40 FORX=1 TO N
- 50 T=T*P(X)
- 60 NEXT
- 70 PRINT T

8) Rearrange elements in an array so they appear in the reverse order.

This array could be words or characters but for this example we will use numbers.

1 2 3 4 5 6 7

10 T=TEMPORARY VARIABLE

20 A=ARRAY

30 N=ELEMENTS IN ARRAY

40 R=No. OF EXCHANGES NEEDED IN T(N/2)

50 FORI=1 TO N

60 READ A(I): NEXT

70 DATA 1,2,3,4,5,6,7

80 FOR I=1 TO R

90 T=A(I)

100 A(I) = A(N-I+1)

110 A(N-I+1)=T

120 NEXT

130 FORI=1 TO N

140 PRINT A(I)

150 NEXT





Business Application

INTRODUCTION

This programme was first written as an entry in a programming competition a few years back. I decided to resurrect it for the magazine but first decided to get an opinion on its suitability. The reply was quite a revelation and started me on a complete revamp of the data storage system. This rewrite is shorter, does more and is faster and easier to use than the original.

Many people play the stockmarket. A lot more would like to try but are a bit scared of trying due to a lack of knowledge of the workings of the stock exchange.

This can be remedied by contacting the nearest stock exchange and asking for the latest handbook on stock exchange practice. The Brokers Association will also supply you with information on how to deal with brokers. Your nearest public library will also supply you with an armful of books on the subject.

targe investors use the many large Databases and up to the minute Stock Exchange Boards to follow their chosen business. This usually requires a considerable outlay in equipment and fees to access the various databases. Most of us are not in this league.

THE SMALL INVESTOR has been written for the Coco3 and requires a disk drive (35TSS will be sufficient). The use of a printer would be preferable.

The programme uses 40 character wide screens for data input but 80 character wide screens and hi-res graphics are required for graphs and lists.

The listing for the "Small Investor" is quite large and therefore for the purpose of the magazine will be split into two (or maybe three) parts. This first part includes all the input features plus the save and write routines.

This programme was written to allow people with a lack of funds, a method of keeping track of a small number of businesses. It has the ability to develop a history module for each and will show the various graphs and charts necessary to help one to make a judgement on when to buy or sell.

For the Small Investor programme to work, data must be accumulated over a longish period. The longer the time span the better the results. I have built this programme on the premise of updating the data once per week. For really top notch systems and minutely accurate graphs etc. this would be too long a time lapse between recordings of data. I felt that the small investor, interested in about 16 companys at most, would not feel that daily data collection was necessary. With this in mind I dimensioned the data statements on line 7 (part 1) for 52 weeks.

When you have collated 52 weeks of data, each additional week added will update the list to read your current data plus the 51 weeks previous. In other words your data will always show the last twelve months movements.

It takes a while to build up a database which will give you enough information to be reasonable for forecasting sell or buy times but the results are quite interesting.

USES

The Small Investor can be used to seriously follow the trends inherant in the stock market. The information gleaned can be used for serious investment. That is when you actually gamble your own money.

It is also possible to use this programme in a purely entertainment or educational context involving no money whatsoever. You could use it to see how well you manage a set amount of money over a period of, say, one year. Maybe you will turn out to be one of those clever entrepeneurs. (But watch you don't go broke!)

The programme could be used in a school setting to help teach scholars the intricacies of the Stock Market. Programmes such as this are used world wide for just this purpose.

DATA INPUT

The data necessary to run the programme is split into 3 sections. The first section deals with the basic details of the company:

Company name

Home exchange - A single letter donating the stock exchange where the company is reg-

istered. eg A = Adelaide.

Industry group - Type of industry the company is

involved in. eg Textile, mining.
- The total number of shares issued

No. of shares - The total number of a by the company.

Profit - The profit announced by the company in its last report.

Shares held - The number of shares you hold in

the company.

Price paid - The price you paid for them.

Last report - The date of the company's last report.

Some of these details may have to be located in one of the glossy business magazines. Although much of this data is not used in formulating graphs etc. it helps to keep a clear picture of the company in front of you. As companys' change their share proportion at irregular intervals, certain details, such as the total number of shares and profit, should be updated as necessary at regular intervals of 3 or 6 months.

The second section comprises of historical data. In recording this data for the previous 4 years you can get a rough overview of how the company performs over the longer period. This data can be obtained in any of the glossy business magazines. The information required is:

Year High

- Highest share price for the year.

Low

- Lowest share price for the year.

Earning/share - The earnings of each share over the 1 year period.

Dividend/share - Dividend paid on each share.

Section 3 deals with the current data. This is the information which has to be updated each week for each of the company's you are interested in. This data is found in the business pages of most daily newspapers. It is advisable to check the data on the same day of each week. The particular day is arbitrary and entirely the choice of the individual. The information required in this section is:

High - The highest price of the day.

Low - The lowest price of the day.

Last sale - The price of the last sale made.

Volume sold - Number of shares sold that day.

Dividend yield - Reported dividend yield.

Gold Price - Price of the day.

When you have assembled the companies you wish to follow and have completed steps 1 and 2, you then only require the current data each week.

THE PROGRAMME

The programme uses the Quickmenu (40 column) system which I use for most of my programmes. This routine is listed from lines 49 to 69. It also includes the ZD\$ strings.

The programme starts by DIMensioning where necessary and then jumps to line 9000. This routine checks your disk to see if there is a file called INDEX on it. If it is there then the programme is diverted to the routine at line 2500 which reads the INDEX and HISTORY files into memory. If this file is not on the disk the programme reverts to the menu.

When the first new company is entered the INDEX and HISTORY files are saved to disk. The total number of companies (R), the week number (W), the date of the last update of current file (DT\$) and the year's Hi and Lo sale price are all saved on the index file.

These are sequential files and are loaded on startup thereafter. Also at this time a current data file is opened in the name of the company entered. This is done in the routine at 10000. The idea of creating this dummy file is to prevent the later fractionating of the data to different sectors of the disk. This saves wear on your drive and helps to speed up the retrieval of data.

The current data for each company is input sequentially and then saved to the appropriate Direct Input File under the company name.

Inputting Current Data to the programme is very simple and should pose no problems.

A company review feature has been incorporated which prints the index of companies on screen with some relevant information. This is retrieved from the menu.

CONCLUSION

Part 1 of the Small Investor gives enough of the programme for you to make a start on entering data for

future use.

Study the listing and the routines therein carefully. There are quite a few of them which can be used in different circumstances. I have adequately REMmed the programme so as to make individual sections easy to find and understand.

I have not, at this time, included any speed-up pokes. It is my opinion that these pokes should never be used while a programme is under development. When the programme is up and running and fully debugged is early enough, and even then only if it is felt that there is something to be gained from it.

When typing in part 1 of the Small Investor be sure to keep the line numbers as listed here. Later parts will depend on knowing where these routines are located.

Part 2 will cover routines for modifying records and deleting companies. We will also delve into the charts etc. generated by the saved data

Till then, have fun!

```
0 '** THE SMALL INVESTOR V2,1 **
         BY ROBBIE DALZELL
1 '**
2 FILES 3,500: PMODE1
3 CLOSE: PALETTEO, 0: PALETTE8, 63: C
LS1
4 WIDTH40: ATTRO, 0: CLEAR10000
5 HD=0: R=0: H=0: F=1: W=0: P1=1: Y=1
6 DIMN$(16), D$(16,7), H$(16,5,4),
A$ (68), C(52, 7): GOTO9000
7 FIELD#3,5 AS C1$,5 AS C2$,5 AS
 C3$,6 AS C4$,5 AS C5$,5 AS C6$,
5 AS C7$: RETURN
49 '*** menu routine ***
50 ZJ=0: ZK=0: ZL=0: ZN=1
51 GOSUB64: CLS: ZP=INT((40-LEN(ZT
$>>/2>
52 PRINT: ATTRO, 0: LOCATEZP, 2: PRIN
TZT$: PRINTTAB (ZP) STRING$ (LEN (ZT$
53 IF INSTR(ZD$,"/")=OTHENRETURN
54 GOSUB64: ZK=ZK+1
55 IFLEN(ZT$)>ZL THENZL=LEN(ZT$)
56 ZT$(ZK)=ZT$: IFZQ<>OTHENZL=LEN
(ZT\$)
57 ZM=INT((35-ZL)/2): ZG$=STRING$
(ZM," ")
58 IFZK<>ZY THEN54
59 FORZX=1TO(15-ZK)/2:PRINT: NEXT
60 FORZX=1TOZK: PRINTZG$; ZX"- "; Z
T$ (ZX): NEXT
61 ATTRO, 0: LOCATE9, 22: INPUT"CHOO
SE SELECTION NUMBER"; ZI
62 IFZI<1 OR ZI>ZK THENSOUND100,
2:GOTO61
63 RETURN
64 ZQ=INSTR(MID$(ZD$,ZN),"/")
```

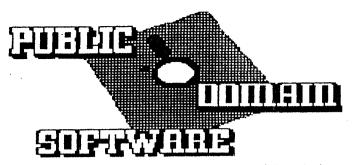
```
65 IFZQ=OTHENZT$=MID$(ZD$, ZN):GO
T067
66 ZTS=MIDS(ZDS,ZN,ZQ-1):ZN=ZN+Z
Q
67 RETURN
68 LOCATE12.23: PRINT"Continue/Re
turn"; : RETURN
99 GOSUB2500
100 ZD$="MENU/ENTER NEW COMPANY/
UPDATE CURRENT DATA/DISPLAY COMP
ANIES/COMPANY ANALYSIS/MODIFY A
RECORD/EXIT PROGRAMME": ZY=6: GOSU
B50
110 ON ZI GOSUB1000, 1200, 3000, 13
0,5000,200
120 CLOSE: GOTO100
130 ZDS="TECHNICAL ANALYSIS/HI-L
O BAR GRAPH/POINT & FIGURE CHART
/FUNDAMENTAL ANALYSIS": ZY=3: GOSU
B50
140 ON ZI GOSUB186, 188, 185
150 CLOSE: HSCREENO: GOTO100
200 GOSUB2000: CLOSE: END
990 '*** Enter Company ***
1000 R=R+1
1010 CLS: LOCATEO, 0: INPUT" COMPANY
               "; N$ (R): LOCATEO, 1:
 NAME
PRINTSTRING$ (40, "*"); : GOSUB10000
1020 PRINT"1 HOME EXCHANGE ";: I
FF=1THENINPUTDs (R, 1) ELSEPRINTDs (
R, 1)
1030 PRINT"2 INDUSTRY GROUP ";: I
FF=1THENINPUTD$ (R, 2) ELSEPRINTD$ (
1040 PRINT"3 NO. OF SHARES
FF=1THENINPUTDs (R, 3) ELSEPRINTDs (
1050 PRINT"4 PROFIT
FF=1THENINPUTD$ (R, 4) ELSEPRINTD$ (
R. 4)
1060 PRINT"5 SHARES HELD
                              ":: I
FF=1THENINPUTD$ (R, 5) ELSEPRINTD$ (
1070 PRINT"6 PRICE PAID
                               ":: I
FF=1THENINPUTD$ (R, 6) ELSEPRINTD$ (
R, 6)
1080 PRINT"7 LAST REPORT
                              ":: I
FF=1THENINPUTD$ (R, 7) ELSEPRINTD$ (
R,7)
1099 '*** Enter Past History ***
1100 CLS: PRINTTAB(12); "HISTORICA
L DATA": PRINTTAB(12); STRING$(15,
"*")
1110 H=H+1
1120 PRINT"1 YEAR
                             ";: IF
F=1THENINPUTH$ (R, 1, H) ELSEPRINTH$
(R, 1, H)
1130 PRINT"2 HIGH
                             ":: IF
F=1THENINPUTH$ (R, 2, H) ELSEPRINTH$
(R, 2, H)
```

```
1999 '*** Company Details ***
                             ":: IF
1140 PRINT"3 LOW
                                      2000 OPEN"O", #1, "INDEX"
F=1THENINPUTH$ (R, 3, H) ELSEPRINTH$
                                      2010 PRINT#1, W, R, DT$
                                      2020 FORX=1TO R: PRINT#1. N$ (X)
1150 PRINT"4 EARNING/SHARE ":: IF
                                      2025 PRINT#1, C(X, 1), C(X, 2): NEXT
F=1THENINPUTH$ (R, 4, H) ELSEPRINTH$
                                      2030 CLOSE#1
                                      2050 OPEN"O", #2, "HISTORY"
1160 PRINT"5 DIVIDEND/SHARE":: IF
                                      2060 FORX=1TO R: FORK=1TO7
F=1THENINPUTH$ (R, 5, H) ELSEPRINTH$
                                      2070 PRINT#2, D$ (X, K): NEXTK: NEXTX
(R, 5, H)
                                      2080 FORX=1TO R
1165 IFH=4THENH=0:GOSUB2000:RETU
                                      2100 FORZ=1TO4: FORY=1TO5
RN
                                      2110 PRINT#2, H$ (X, Y, Z)
1170 GOSUB68
                                      2120 NEXTY: NEXTZ: NEXTX
1180 IS=INKEYS: IFIS="C"THENCLS: G
                                      2130 CLOSE#2: RETURN
OTO1100ELSEIFI$="R"THENGOSUB2000
                                      2199 '*** Current Data ***
ELSE1180
                                      2200 FORX=1TOR
1190 IFI$<>"R"THEN1180ELSERETURN
                                      2210 OPEN"D", #3, N$ (X), 36: GOSUB7
1199 **** Enter Current Data ***
                                      2211 GOSUB7
1200 W=W+1: D1$=DT$: CLS: INPUT" TOD
                                      2220 LSETC1$=STR$(C(X,1)):LSETC2
AY'S DATE "; DT$
                                      s=STR$(C(X,2)):LSETC3$=STR$(C(X,
1205 FORX=1TOR: CLS
                                      3)):LSETC4$=STR$(C(X,4)):LSETC5$
1210 PRINT"CURRENT DATA": PRINTST
                                      =STR\$(C(X,5)):LSETC6\$=STR\$(C(X,6))
RING$ (12, "*"): PRINT"LAST UPDATE
                                      )): LSETC7$=STR$(C(X,7))
"D1$;:LOCATE27,2:PRINT"WEEK NO.
                                      2230 PUT#3, W: CLOSE#3
"W: PRINTSTRING$ (40, "=");
                                      2240 NEXT: RETURN
1212 PRINT"TODAY'S DATE "; DT$
                                      2498 '*** Read from Disk ***
1220 PRINTSTRING$ (40,"*")
                                      2499 '*** Read Index File ***
1230 PRINTTAB(8); "COMPANY NAME:
                                      2500 OPEN" I", #1, "INDEX"
"; N$ (X): PRINTSTRING$ (40, "*")
                                      2510 INPUT#1, W. R. DT$
1260 PRINT"1 HIGH
                              ":: I
                                      2520 FORX=1TO R
FF=1THENINPUTC(X, 1)ELSEPRINTC(X,
                                      2530 INPUT#1, Ns(X), C(X, 1), C(X, 2)
1)
                                      : NEXT
                              ":: I
1270 PRINT"2 LOW
FF=1THENINPUTC(X, 2)ELSEPRINTC(X,
                                      2540 CLOSE#1
                                      2599 '*** Read History File ***
                                      2600 IFR=OTHENRETURN
1280 PRINT"3 LAST SALE
                              ";: I
                                      2605 OPEN"I", #2, "HISTORY"
FF=1THENINPUTC(X, 3) ELSEPRINTC(X,
                                      2610 FORX=1TO R: FORK=1TO7
                                      2620 INPUT#2, D$ (X, K)
1290 PRINT"4 VOLUME SOLD
                              ";: I
                                      2630 NEXTK: NEXTX
FF=1THENINPUTC(X, 4)ELSEPRINTC(X,
                                      2635 FORX=1TO R
4)
                                      2640 FORZ=1TO4: FORY=1TO5
1300 PRINT"5 DIVIDEND YIELD ";: I
                                      -2650 INPUT#2, H$ (X, Y, Z)
FF=1THENINPUTC(X,5)ELSEPRINTC(X,
                                      2660 NEXTY: NEXTZ: NEXTX
                                      2670 CLOSE#2: RETURN
1302 PRINT"6 YEAR HI
                              ":: I
                                      2699 '*** Read Current Data ***
FF=1THENINPUTC(X,6)ELSEPRINTC(X,
                                      2700 OPEN"D", #3, N$ (R), 36: GOSUB?
6)
                                      2710 FORX=1TO W
1304 PRINT"7 YEAR LO
                              ":: I
                                      2720 GET#3, X
FF=1THENINPUTC(X,7)ELSEPRINTC(X,
                                      2730 C1$=VAL((C(X,1))):C2$=VAL((
7)
                                      C(X,2)):C3s=VAL((C(X,3)):C4s=V
1310 NEXT
                                      AL((C(X,4))):C5s=VAL((C(X,5))):C
1315 LOCATE12, 21: PRINT" SAVING TO
                                      6s=VAL((C(X,6))):C7s=VAL((C(X,7))
 DISK";:GOSUB2200
                                      >>
1320 LOCATE12, 21: PRINT"Continue
                                      2740 NEXT
or End"
                                      2750 CLOSE#3: RETURN
1325 IS=INKEYS: IFIS="C"THEN RETU
                                      2999 '*** Print Company List ***
                                      3000 CLS: X=7: WIDTH80
1330 IFI$="E"THENGOSUB2000ELSE13
                                      3010 LOCATE33, 0: PRINT" COMPANY RE
25
                                      VIEW": LOCATE33, 1: PRINTSTRING$ (14
1340 GOTO200
1998 '*** Save to Disk ***
```

3020 LOCATEO, 3: PRINT" EX NAM PROFIT E INDUSTRY NO. SHARES PRICE LA CURRENT ST" 3030 LOCATE20, 4: PRINT" GROUP S HEL HARES HILO PAID REPORT" 3040 LOCATE30, 5: PRINT" (000) (0 3050 PRINTSTRING\$ (80,"*"); 3060 FORK=1TO R 3070 LOCATE1, X: PRINTD\$ (K, 1); : LOC ATE4, X: PRINTN\$ (K); : LOCATE17, X: PR INTDs(K, 2);:LOCATE29, X:PRINTVAL(D\$ (K, 3))/1000;:LOCATE37, X: PRINTV AL(D\$(K, 4))/1000;:LOCATE45, X:PRI NTC(K, 1); : LOCATE52, X: PRINTC(K, 2) :: LOCATE59, X: PRINTD\$ (K, 5); 3075 LOCATE65, X: PRINTD\$ (K, 6); : LO CATE72, X: PRINTD\$ (K, 7) 3080 X=X+1: NEXT 3085 LOCATE32.23: PRINT" Any Key t o Continue";: EXEC44539 3090 CLS: WIDTH40: RETURN 8999 '*** CHECK DIRECTORY FOR IN DEX *** 9000 FORX=3TO11 9010 DSKI\$ Z, 17, X, A\$, B\$: C\$=A\$+LE FT\$ (B\$, 127) 9020 FORN=0T07 9030 As (Y) = MIDs(Cs, N*32+1, 8)9040 R1=ASC(A\$(Y)): IFR1=255 THEN A\$ (Y)="": GOTO9100 9050 IFR1=0 THEN A\$(Y)="":GOTO90 9060 Y=Y+1 9070 NEXTN. X 9100 FORX=1TO68 9110 IFA\$ (X)=""THEN100 9120 IFA\$ (X) =" INDEX " THENGOTO 99 9130 NEXT: GOTO100 9999 '*** CREATE NEW FILE *** 10000 OPEN"D", #3, N\$(R), 36 10010 GOSUB7: LSETC7\$=STR\$(999): P UT#3,104 10020 CLOSE#3: RETURN

END

Both these disks are available from COCO-LINK for the rediculously low price of \$5.00 each.



With this issue of COCO-LINK we have two PD Disks. Both of these disks are well worth having.

PD DISK No 023 - UTILITIES No 3

This disk has as its main programme the "Programmers Utility" which till recently retailed for \$20.00 on it's own. This is really a terrific programme and all programmers will wonder how they ever got along without it after they have used it. Full instructions for the programmes use are included on the disk.

As if that was not enough, a variety of other utility programmes have been included on the disk making it a must

The Programmers Utility was reviewed in COCO-LINK in the ----- magazine.

There are 12 files on this disk.

Our second disk is a Shareware Programme from Star-Kits Software Systems Corporation. This programme is a fullblown Spell Checker.

PD DISK No 033 - SPELL 'N FIX

Spell 'n Fix is a programme for checking Text files for spelling and typographical errors. It comes with an easy to understand 10 page instruction manual on disk. The disk includes a short programme to allow you to read or make a printout of this manual.

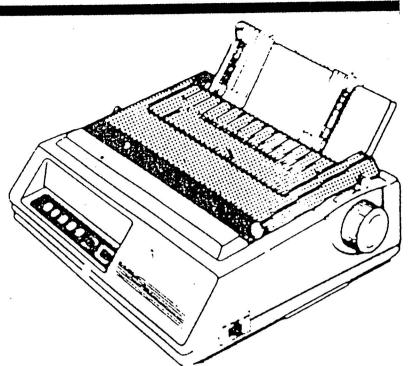
It carries a 20000+ word dictionary file. In addition to just displaying or printing suspect words, Spell 'n Fix includes the ability to actually correct mistakes. There is also an option to add new words to the dictionary

There are a total of 13 files on the disk. These include two separate versions of Spell 'n Fix as well as a sample file to show you how the programme works.

Spell 'n Fix is a professional programme and for those who use word processors for long articles, letters or school projects, it would be work saving addition to the software library.

Technical

Braphics with Dot Matrix Printers Part 1



By George McLintock

Most dot matrix printers will do dot addressable graphics in one form or another. These days, virturally all current model printers have an 'IBM compatable' mode, but this can often be at the lowest common denominator, and some of the more interesting graphics capabilities require native mode control codes to use.

Most CoCo's use Tandy type printers with Tandy type graphics. This is natural given the history of the CoCo. Newer Tandy printers have an IBM compatable mode, but this is sometimes not available for use through the serial port. If you have a serial to parallel converter, then you can use any IBM compatable printer on a CoCo.

At a conceptual level, all dot matrix printers do graphics in much the same way. The print head contains a column of wires or pins, which can be individually programmed to print single dots within the column as the print head moves across the page. For each pass of the print head across the page you get a row of dot columns which can be as high as the number of pins in the print head. This produces the dots across the page. Dots down the page are produced by moving the paper past the print head to do a series of rows of columns across the page.

At a practical level, printers vary in the number of pins in the print head, and in the number of dots per column they print as the print head moves across the page. I am familar with printers that have 7, 9 and 24 pins in the print head, and these can print 7, 8, 9, 20 or 24 dots

per column for each pass of the print head. A few years ago, some printers were sold with 16 and 18 pins, and some newer one now have 48 pins.

Within PC's, data is handled (addressed) in units of 8 bits (dots) - (called bytes), and this is the normal unit for building graphics data to be printed. Printers vary in how they establish a relationship between bits in a byte and dots in a column. The common factor is that each pin in a column corresponds to a bit in a byte. If the bit is on, then a dot is printed in that position, while if it is off, then no dot is printed. The variation comes from the number of data bits per byte that are used, the number of bytes required for each column, and whether the top dot in a column corresponds to the high or low order bit in the byte.

Some examples are:

Tandy mode, prints 7 dots per column, use 7 data bits per byte, and the top dot in a column corresponds to the low order bit in the byte (binary 1). The high order bit (binary 128) must also be on for graphics data. This mode was developed initially for 7 pin printers, and has been continued with their 9 pin printers.

Epson mode, prints 8 dots per column and uses 8 data bits per byte, with the top dot in a column corresponding to the high order bit in a byte (binary 128). Some Epson printers will also do 9 dots per column graphics (to use all 9 pins), but this is messy to program and is more an

interesting variation. Some other older printers use 8 data bits per byte, but the top dot in a column corresponds to the low order bit in a byte.

24 pin printers require more than one byte to get enough bits to represent all 24 pins. The Epson 24 pin printer uses 3 bytes per column, each byte using 8 data bits, with the high order bit in the first byte corresponding to the top dot in a column and the low order bit in the last byte representing the bottom dot in a column.

The Toshiba 24 pin printer uses 4 bytes per column, with each byte using only 6 data bits per byte (the low order 6 bits). For these, bit 5 (binary 32) of the first byte corresponds to the top dot in the column, while the low order bit in the fourth byte represents the bottom dot in the column. 16 and 18 pin printers use variations of these (2 X 8 or 3 X 6). I assume the 48 pin printers, being Epson, would use 6 bytes by 8 data bits per byte, but I haven't seen a manual.

Most 24 pin printers will emulate an 8 dot per column graphics mode and they do this by printing a square of 9 dots (3 x 3) to represent a single dot in 8 dots per column mode. The actual wires in the print head are normally 1/180 inch apart, so this produces a dot density of 60 dots per inch equivalent. The IBM Proprinter can also emulate a 72 dots per inch 8 dot graphic mode by using a selection of 20 out of the 24 pins to obtain this vertical density. I expect you could achieve the same effect with an Epson 24 pin printer with appropriate software.

For normal type graphics, 8 dot emulation with 24 pin printers produce acceptable results. A single size dump in 8 dot emulation being the same as a 3 x 3 expansion in native 24 pin mode. However, being able to do dumps in native 24 pin mode can be useful at times. It allows for smaller images on paper, and you can 'fit' larger screens on paper. eg a 24 pin printer provides 1440 dots across an 8 inch page, at 1:1 aspect ratio, and this is sufficient for a horizontal dump of the 1024 x 768 extended YGA screen. It also allows a double size dump of the 800 x 600 screen, rotated 90 degrees.

The main source of variations between different printer types is not with the physical type characteristics as outlined above, but with the software control codes required to get it to actually print graphics, and move the print head and paper etc. In general, this is the area that causes most compatability problems with graphics, and generates such a large number of different printer drivers for software packages.

DESK JETS/LASER PRINTERS:

These printers operate on different principles to the dot matrix ones, but perform a similar function in practice. They also normally (or optional extra, cost more) provide an emulation of dot matrix, 8 dot per column, graphics, which can be used. However, in this mode their actual dot density may not be 'standard'

Conceptually, their native mode graphics is fairly simple. These printers don't print 'line by line' across the page, even if the Desk Jet 'looks' like it does. They actually build up an image in memory of the dots which are to be printed, and when the receive a page feed, or the page/memory is full, they actually print the complete image on the paper. This applies to text as well as graphics.

Hence, their native graphics mode requires a procedure to tell the printer where to print dots anywhere on the page. The normal sequence for doing this is to first specify a rectangular area on the page where you want to put a graphics image. You then tell it what dots within this rectangular area that you want to be on and off. Normally if you don't specify any particular area, the printer defaults to it being the whole page

In concept, it is a bit like a window on the screen, you 'open' it and then do graphics inside it. However, you don't have to 'close' it, and it is not normally cleared when you 'open' it. In concept, you should be able to overprint the same area several times, but this may force a page feed in some machines.

This 'window' is then filled with graphics data. You start at the top left hand corner and specify the state (on or off) for each dot in the first row of dots across the page. This is done with a single graphics command, and the printer then automatically increments its internal row pointer so that the next graphics command applies to the next row of dots across the page.

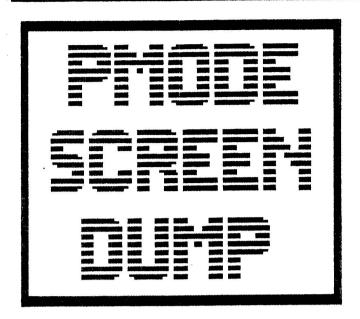
The state of a single dot (on or off) within each row of dots across the page is determined by the state of a corresponding bit within a series of bytes which follow the graphics command to specify this mode of operation for the printer.

Each byte contains 8 bits, so the high order bit in the first byte corresponds to the first dot in the row from the left of the graphics image. Other dots to the right correspond to the other bits in sequence. This method of specifying dots across the page is referred to as a raster scan.

These printers normally have a dot density of 300 dots per inch in both directions. At this rate you need a relatively large number of bytes of data to be physically sent from the computer to the printer to specify an area of graphics on the page (Over 11K of data per square inch of paper). Even for a moderately sized graphics image, it can take a relatively long time to transfer this amount of data, apart from the time required for the computer to generate it

These printers generally use a couple of different procedures to reduce this volume of data required. The first is to emulate a lower density graphics (but still raster scan). eg the HP Deskjet also has densities of 75,

Graphic Utility



By Harry Hoffmann

This program is a screen dump for the PMODE 4 screen on the CoCo3. The CoCo3 should be in CoCo2 mode.

I do not know how well the program works on the CoCo2, but it can be made to work by altering the values in line 10, 175 and 195. The program is run on a DMP105 printer at 2400 Baud, this can be changed in line 160.

Line 170 contains whatever is described in line 165. When printing using single sheets, the paper should be aligned with the top of the print head. That is, below the printer bail. Keep the paper bail off until the paper has reached the proper height.

Now use the paper bail and stick another piece of paper behind the first one to prevent the printer from turning off just before the end of the finished picture..

Printer must also be cleared from all other previous functions, by simply turning it off, (not off line), turn it right off and on again, just to be on the sure side.

Of the uttermost importance is.---- there should be a picture on the PMODE 4 screen to be printed. Because this is a screen dump, it is meant to print out pictures or whatever else is on the PMODE 4 screen. If there is no picture the printer will print any rubbish present at memory locations &HEOO to &H25FF (3584 - 9727).



10 CLEAR200, &H7550 " SCREEN DUMP " 35 A\$(1) =40 A\$(2)= " PROGRAM " 45 A\$(3)= " BY " 50 A\$(4) = " HARRY HOFFMANN " " NO COPYRIGHT " 60 As(5) =90 POKE43305, 201: CLS 95 N=1: FORNN=64TO416STEP64 100 PRINT@NN+16-INT(LEN(A\$(N)))/ 2. A\$ (N); 105 N=N+1: NEXT 110 FORX=1TO3000: NEXT 145 CLS: PRINT@192," I AM TERRIBL Y SORRY SIR/MAM. BUT THERE IS SOMETHING WRONG WITH THE PRI NTER." 150 IF (PEEK (65314) AND1)=1THEN150 155 CLS: PRINT@192, "PLEASE DON'T SECOND SHEET FORGET TO PUT A THE FIRST ONE OF PAPER BEHIND THROUGH PRINT ABOUT HALF WAY ING, THANK YOU." 160 POKE149, 0: POKE150, 18: 'BAUD 2 400 165 '** COMPRESSED CHARACTER MOD E AND HALF LINE FEED ** 170 PRINT#-2, CHR\$ (27) CHR\$ (23) CHR \$(27)CHR\$(28) 175 FORX=&H7552 TO &H75F6 180 READ D\$ 185 POKEX, VAL ("&H"+D\$) 190 NEXT 195 EXEC &H7552 200 POKE111,0 205 END 210 DATA 7E, 75, 57, 00, A4, 86, FE, 97 ,6F,BE,75,E6,20,3,30,88,E0,4F,E6 .84, BD, 75, B6, 59, 49, 59, 49, 30, 88, E 0, BF, 75, E2, E6, 84, BD, 75, B6, 59, 49, 59,49,8E,75,D0,1F,89,3A 215 DATA A6,84, AD, 9F, A0, 2, BE, 75, E2, BC, 75, E8, 26, D0, 7C, 75, E0, CE, 75 , EO, A6, C4, 81, 4, 26, BF, 7F, 75, EO, BC ,75,E4,27,46,BE,75,E6,30,1,BF,75 , E6, BE, 75, E8, 30, 1, BF, 75, E8, 20, A5 220 DATA B7,75,E1,B6,75,E0,27,0E ,59,59,81,1,27,8,59,59,81,2,27,2 ,59,59,B6,75,E1,39 225 DATA EF, EB, ED, E9, EC, E7, E5, E1 , EE, E6, E8, E3, EA, E2, E4, E0 230 DATA 0,0,0,0,0E,1F,25,E0,0E,

0,8E,25,E0,BF,75,E6,8E,0E,0,BF,7

END

5, E8, 39

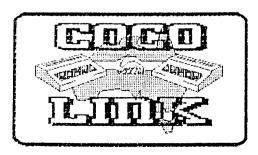


By G.McLintock

Is a small Basic program which will automatically setup any standard $\tilde{C}oCo$ to use 40 track double sided drives (as drives 0 & 2). (It will also work with single sided drives as well). For 64K CoCo 2's it changes to all RAM mode before making the changes.

The PEEK's and POKE's included here are from the '500 PEEK's and POKE's'series of publications and have appeared in the magazine from time to time. It includes the tests necessary to select the right POKE's for your machine

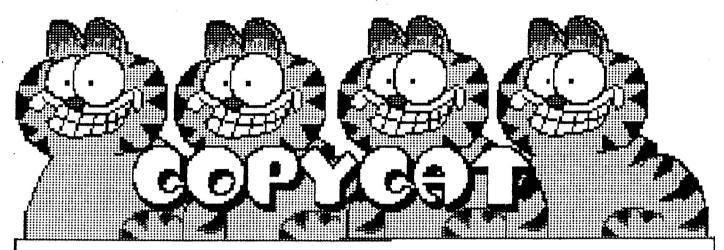
If you have 40 track drives it is worth developing a habit to run a setup program of this nature each time you cold start your computer. You can include a baud rate POKE and any other setup procedure you want in the program to get your machine running the way you want it.



10 '40TRACK - TO SET UP COCO FOR 40 TRACK DOUBLE SIDED DISKS 20 T=&HABEE: POKE T.65: IF PEEK(T)=65 THEN POKE T.79:GOTO 100 30 'IS COCO2 40 RESTORE: FOR X=3584 TO 3584+2 4: READ A: POKE X, A: NEXT X: EXE C 3584 50 DATA 26,80,142,128,0,166,132, 183, 255, 223, 167, 128, 140, 224, 0, 39 , 5, 183, 255, 222, 32, 239, 28, 175, 57 90 'NOW ALL RAM FOR COCO 2 100 T=PEEK(&HC155): IF T=49 THEN 220 110 PRINT "YOU HAVE DISK VERSION 1.0" 120 POKE 50952,78: POKE 54342,39 POKE 50986,84: POKE 51083,78 130 POKE 51104,78: POKE 51135,78 POKE 52300,78: POKE 52697,78 140 POKE 53680,40: POKE 54111,78 : POKE 54642,40: POKE 54677,40 150 'FOR DOUBLE SIDED 160 POKE 243, &HCC: POKE 244, &H41 : POKE 245, &H42: POKE 246, &HFD 170 POKE 247, &HD7: POKE 248, &HAC : POKE 249, &H39 180 EXEC 243 190 PRINT "DOS NOW SET UP FOR 40 TRACK, DOUBLE SIDED" 200 PRINT "OR AS MUCH OF AS YOUR DRIVE WILL ALLOW" 210 STOP 220 PRINT "YOU HAVE DISK VERSION 1.1" 230 POKE 50997,78: POKE 54580,39 : POKE 51034,84: POKE 51131,78 240 POKE 51183,78: POKE 51152,78 POKE 52518.78: POKE 52917.78 250 POKE 53917,40: POKE 54349,78 POKE 54879,40: POKE 54914,40 260 'DOUBLE SIDED 270 POKE 243, &HCC: POKE 244, &H41 POKE 245, &H42: POKE 246, &HFD 280 POKE 247, & HD8: POKE 248, & H9F : POKE 249, &H39 290 EXEC 243

END

300 GOTO 190



By Robbie Dalzell

I had occasion to transfer a number of files from one disk to another. This entailed typing in

COPY"filename.ext:drive" TO "filename.ext:drive" a few times. (18 to be exact). This took considerable time. I knew that there were programmes on the market to do this sort of thing but I did not possess one. I decided to write one myself. This is how it works.

HOW TO USE COPYCAT

First LOAD "COPYCAT". Next, before running the Copycat programme, remove the disk and replace it with the disk you wish to copy from. Now RUN the programme. Copycat prints the directory of the disk in drive 0 to the screen. This should be the disk from which you wish to copy files. The disk to receive the files should be placed in drive 1. By using the 'up' and 'down' arrow keys, the files are individually highlighted. The directory will advance to each page of the directory automatically. There are ten files per page.

Also on this screen are shown the number of granules used and the number of free granules on the disk. The page number of the directory is also indicated.

Use the arrow keys to highlight the files you wish to copy and then press "C". This will print the word "COPY" at the right of the file chosen.

When all the files you require are marked, you press (ENTER) and the files are then copied to your receiving disk in drive 1. As each file is copied it is indicated on the screen. The files will be copied over in the order that you chose them.

At the completion of the run you have the option of continueing to another disk or ending the programme.

THE PROGRAMME

This programme is based on a Public Domain "menu" programme.

The ML routine stored at address 512 puts the reverse video block on the screen. The value K (line 460) calculates the PRINT® position for the start of this block.

The routine from 260-360 reads the directory and stores the name of each file in the variable string A\$(). The first 10 of these files are printed on screen as the first page of the directory. This is done in the routine from 410-450. The variable H (lLine 410) calculates the first file number of the page printed. P1 is the page number.

The routine from 460 - 510 checks to see if the marker has been moved up or down or needs to move to another page.

The routine 500 - 540 saves the names of the files required for copying in the variable string T\$(). On pressing the (ENTER) key the routine at 600 - 630 copies the required files to the disk in drive 1.

CONCLUSION

COPYCAT is a fairly basic utility written to do a particular job for me. It could be made to copy programmes from drives other than drive 0 and transfer them to drives other than drive 1. Many things could be done to improve this programme to do the things you would like it to do. Feel free to change it in any way you like.

The routines in this programme lend themselves to other utility uses where the disk directory is involved. A

couple which come to mind are a utility to delete unwanted files from a disk and a utility to sort the files on a disk into alphabetical order. These could all be made into a single menu driven utility along with Copycat.

These types of utilities shouldn't be too hard to programme using the base routines in "COPYCAT".

Why don't you give it a try.

119 'READ DIRECTORY

120 VERIFY ON 130 CLS: CLEAR2048 140 PRINT@225, "READING DIRECTORY FOR DRIVE O 150 PRINT@321, "SELECT PROGRAM WI TH ARROW KEYS" 160 PRINT@353,"HIT "C" FOR COPY FILES 165 PRINT@385,"HIT (ENTER) TO TR ANSFER FILES 170 FOR I=1 TO 1000: NEXT I 180 FORX=512T0541 190 READAS 200 POKEX, VAL ("&H"+A\$) 210 NEXT 220 DEFUSR0=512 230 Z=PEEK(235) 240 F=FREE(Z) 250 DIMT\$ (50): DIMA\$ (68): A=0: Y=1: P1=1: PO=4: T=247: Z=0

280 FORN=0TO7
290 A\$(Y)=MID\$(C\$,N*32+1,8)+" "+

270 DSKI\$ Z, 17, X, A\$, B\$: C\$=A\$+LEF

MID\$(C\$, N*32+9, 3)+" "
300 R=ASC(A\$(Y)): IFR=255 THEN A\$
(Y)="":GOTO360

310 A\$ (Y) = A\$ (Y) + CHR\$ (PEEK (1547+N) *32) +48) +" "

320 IF PEEK(1548+N*32)=0 THEN A\$
(Y)=A\$(Y)+"B" ELSE A\$(Y)=A\$(Y)+"
A"

330 IFR=0 THEN A\$ (Y)="":GOTO350

340 Y=Y+1

350 NEXTN, X

260 FORX=3TO11

T\$ (B\$, 127)

*360 P2=INT((Y-1)/10):IFP2<(Y-1)/
10 THEN P2=P2+1

370 CLS

379 'PRINT DIRECTORY

380 PRINTTAB(11)"DISK DIRECTORY

390 PRINTTAB(10)"DISK DRIVE"; Z

400 PRINT@65,"USED"; 68-F; "FREE";

F;" PAGE"P1"OF"P2:PRINT

410 H=(P1-1)*10+1

420 FORX=H TO H+9

430 IFA\$(X)=""THEN PRINT: GOTO450

440 PRINTTAB(4)A\$(X)

450 NEXT

459 'PICK OUT FILES

460 K=PO*32+4: POKE529, &H80: A=USR

0(K): POKE529, &H8B

470 E=(P1-1)*10+P0-3

480 IFPEEK(341)=T AND PO=4 AND P
1>1 THEN P1=P1-1: PO=13: A=USRO(K)
:GOTO400 ELSE IF PEEK(341)=T AND

PO>4 THEN A=USRO(K): PO=PO-1: GOT 0460

490 IFPEEK(342)=T AND PO<13 AND E < Y-1 THEN A=USR0(K): PO=PO+1: GOT

O460 ELSE IF PEEK (342)=T AND P1 <P2 AND PO=13 THEN P1=P1+1:PO=4:

A=USRO(K): GOTO400

499 'COPY PROGRAMMES

500 Is=INKEYS: IFIS="C"THEN520ELS

EIFI\$=CHR\$(13)THEN600ELSE480

520 MID\$ (A\$ (E), 9, 1)=".": T\$=LEFT\$ (A\$ (E), 12)

525 PRINT@K+22,"COPY"

530 B=B+1:T\$(B)=T\$

540 GOTO460

560 DATA BD, B3, ED, C3, 4, 0, 1F, 1, C3, 0, 10, ED, 8D, 0, D, A6, 84, 8B, 40, A7, 8

0, AC, 8D, 0, 3, 26, F4, 39, 0, 0

600 CLS4: FORX=1TO B

620 PRINT"COPYING "T\$(X)":0"

625 COPY T\$(X)+":0" TO T\$(X)+":1

630 NEXT

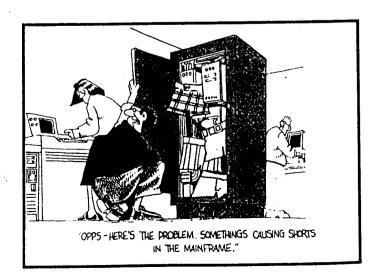
700 CLS: PRINT@235, "JOB COMPLETE"
710 PRINT@448, "DO YOU WISH TO WO

RK ANOTHER Y/N

720 IS=INKEYS: IFIS="Y"THEN120ELS

E IFIS="N"THEN730ELSE720

730 CLS: END



Club Indiceboard

Moe User Group....Joseph Hester

CLUB CONTACTS

051 277 817 Ian Taffs Adelaide.....Laurie O'Shea 051 275 751 08 363 2647 (after 7.30pm) Glenys Ferres OS9 User Group....Gordon Bentzen 07 344 3881 08 332 4264 Peninsula CCC.....Bob Charleston AMUG.....Dick Burke 059 791 922 08 296 2995 Greg McKenzie 059 837 255 Basic.....Johanna Vagg Gordon Chase 068 522 943 059 711 553 Robert Hillis Brighton.....N.Winter 03 563 3553 07 269 4373 Brisbane North....M.Webster Penrith CC Users..Debbie Collier 047 213 945 07 285 6551 Springwood Users..P.Richardson Brisbane S/W.....Bob Devries 07 372 7816 047 536 018 Geelong......Alan Murrells Whyalla.....Fred Porter 052 753 065 086 450 607

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WANTED URGENTLY

Programmes, Articles, Hints and tips for COCO-LINK Magazine.

A Low cost video Digitizer for the TANDY Color Computer 3

A new Video Digitizer is soon to be released for the CoCo3 call Digi-Scan. It is being developed by the same team responsible for the Rascan Video Digitizer also for the CoCo3. This article is written by one of the Digi-Scan developers, Nickolas Marentes, and answers a few what, how and when questions.

WHAT IS A VIDEO DIGITIZER AND WHERE CAN I USE IT?

A video digitizer takes a video image from a video camera or video recorder and converts it to a string of numbers. These numbers are then reconstructed back into a video image and displayed on the computer's screen. The quality of the reconstructed screen depends on the graphics capabilities of the computer. Once the image is in the computer, it can be processed in many ways. The most popular use for a video digitizer is simply for creating picture slide shows. More useful applications include the creation of clip art or pictures for desktop publishing, title graphics for programs or amateur video, and graphic animation.

HOW DOES IT WORK?

Digi-Scan consists of two main components.

'The HARDWARE which consists of a small compact box with two adjustable dials on top. This box has four cables coming out the back. Two of these connect to the joystick ports of the computer, another to the cassette port and the last has a socket in which a video signal is fed into. The entire unit runs off an internal alkaline 9 volt battery and is switched on and off by the computer so the unit can never be left on accidentally.

The other main component is the SOFTWARE. When the software is loaded, the user is presented with a professional control panel display. On this screen the user

selects the video display mode, colour filter setting, image offset position and a variety of functions such as load/save image data, erase/copy image data, editing of palette colours and of course, digitize an image.

HOW GOOD ARE THE DIGITIZED IMAGES?

It is important to note that no matter how good the digitizer is, the quality of the reconstructed images will depend on the graphic display capabilities of the computer being used.

The CoCo3 can only display 16 colours from a total colour palette of 64 colours. A video image coming from a video camera or video recorder contains thousands of colours and hues to produce a pictur

It is therefore

impossible to produce photo quality images on the CoCo3. Having mentioned that, Digi-Scan does use a few interesting techniques to produce more colors than the CoCo's hardware actually allows. Digi-Scan supports a technique of image flipping to produce images with up to 4096 apparent colours. Unfortunately, to create such displays, a trade-off must occur. When displaying these type of images, a flickering effect can be seen, especially in the 4096 colour images. I have named these images "FlikPics". In order to create any of these images, a video camera with red, green and blue optical color filters (these will be available separately for about \$10) is needed.

HOW FAST DOES IT DIGITIZE?

Digi-Scan, like it's predecessor Rascan, is what is termed, a frame sampler. Digi-Scan samples an image many times and gradually compiles the image onto the CoCo's screen. It takes approximately 15 seconds to capture a complete 16 level gray or color image. Three

Digiscan

Continued

images are needed for the 4096 colour images and two for the 256 colour images.

WHEN WILL IT BE AVAILABLE AND HOW MUCH WILL IT COST?
Development has been progressing steadily and is anticipated to be available around September 1991. We are aiming at a sell price of around \$100. This price includes: the digitizer itself, driver software, operating manual and a 9 volt battery.

ONE FINAL NOTE.

Capturing quality images takes time and patience. As with still photography, owning the worlds best camera will not guarantee a good picture if the lighting, focus or subject matter is inadequate. When Digi-Scan is made available, an information leaflet with pictures will be mailed out to those interested.

If you are interested in purchasing a Digi-Scan unit for your CoCo3 and would like to recieve a leaflet informing you if its availability, then write to the following postal address:

Digi-Scan, P.O. Box 6551, Upper Mt. Gravatt, 4122

END



OS9: chx /d0/cmds \langle enter \rangle At the next OS9 prompt, type:

· OS9: logo (enter)

Graham Bye, Vic.

Dear Ed,

I have been toying with the idea of a hard drive with plenty of megabytes, and I would be glad to hear from you if you have any suggestions in that regard.

I noted that there was no advertisement for Frank Hogg's Tomcat nor for Kenneth-leigh's HM1 in the May Rainbow and I am wondering if those projects really got off the

PRINTERS CONTINUED

100, and 150 dots per inch, which simply print squares of 2x2, 3x3 or 4x4 dots in place of the single dot at 300 dots per inch

The second procedure is to provide one or more simple forms of data compression for the bytes that provide the raster scan information. eg a repeat count, where the data is specified in pairs, such as the two bytes CHR\$(200) + CHR\$(0) meaning insert 200 bytes of character value zero. Other forms of data compression may also be provided. This form of data specification requires more computer time to generate, but reduces the data transfer time. It can also be very convenient for printing graphic images which have already been saved to disk in compressed format.

While these densities don't match the normal 8 dot dot matrix printers, the 75 dots per inch is reasonably close and provides a reasonable dump for smaller screens. The higher densities are also useful for smaller images on paper and for the larger screens. eg 150 dots per inch provides 1200 dots across an 8 inch page, which is sufficient for the 1024 x 768 screen as a horizontal dump. The 100 dots per inch provides 800 dots which matches the 800 x 600 screen as a horizontal dump. The 75 dots per inch also allows a full page width dump of the 800 x 600 screen, rotated 90 degrees

So if you have these larger VGA screens, the Deskjet provides some convenient sizes for screen dumps. It is a pity they are so expensive to buy.

END

ground.

A couple of months ago I wrote to Frank Hogg to ask for information regarding the Tomcat and, specifically, if it could be easily converted for 240 volt/50 Hertz use. So far I have had no reply.

Keiran Kenny, Cremorne, NSW

Adding a hard disk to your system is a big decision. It can also be an expensive one. My view is that you would need to have a definite purpose for hard disk use before going to that sort of expense.

Should you decide to go on with the project we will be happy to provide whatever assistance we can.

Regarding the Tomcat and the MM1, I am in the same boat as you. I have no further information on these machines. I did write to Kenneth-Liegh for further info on the MM1 but I received no reply.

I understand that they were negotiating with an Australian distributer but have heard nothing since.

END

Software Ordering Service

SOS NEWS

Well, SOS got off to a bumpy start. First of all the company in the USA which was to be our supplier went out of business. Luckily this was before we put in an order.

Secondly, the programme most requested and which has been advertised in the "Rainbow" for the last 7 months turned out to be unavailable. The writing of the programme is not complete yet. This programme is "The Contras" by Sundog Systems.

That is the second time I have been caught ordering programmes from the USA which do not even exist.

However, the good news is that, after a number of phone calls to the USA, I seem to have found a supplier who will be able to supply most of our needs. The chances are that a similar situation to the above should not happen again (although I do not rule out the possibility).

This issue we will try to accommodate the Coco2 and cassette users as well as Coco3 owners by including a selection of T&D Software as well as some exclusive Coco3 stuff.

THE RULES

The rules remain the same for participation in the Software Ordering Service.
They are as follows:

- 1) Only the programmes listed each COCO-LINK issue can be ordered.
- Prices are listed in Australian Dollars. These prices include all postage and other costs.
- Orders must be received by the date shown. Cheques/ Money orders must accompany orders.
- 4) All programmes will be checked at COCO-LINK to make sure they function as advertised.
- No returns will be accepted by COCO-LINK and no refunds will be granted on returned programmes.
- 6) Software should be delivered within four (4) weeks of final order date (barring holdups in USA).
- T) Send orderforms and cheque/money orders made payable to COCO-LINK to:

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			=	=====					
	CHEQUE/MONEY ORDER No								
	NAME AND	ADDR	ESS:						
			SIGNED:						

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ISSUE #91, JAN 1990 TRENCH FIGHTER COCVERT3 SPEED GAMES BUSINESS STARTER CAVERN QUEST3 PT. 2 BUILDERS HELPER TARZAR IV ADDRESS IT ANIMAL GRAPHICS

ISSUE #97, JULY 1990 FCC EXAM HELPER EMPLOYEE SCHEDULE FLYING SAUCER ADV. SPEECH AID MOWER MADNESS JET TRIVIA INSTANT CALENDAR WORLD MASTER 3 SKRAMBITE

ISSUE #92, FEB 1990 PENTA-SAME ROTISSERIE LEAGUE NICKS QUEST SOLITAIR EDUCATION 4 18M - BASIC BASEBALL CARD ORG. MUNCHY 3 RIVER RAID 3 Tollis and

ISSUE #98, AUG. 1990 FLIPPY TUTORIAL RECIPE/MEAL/GROCERY DUNGEON MAZE SNOW SKI HOT LOAD SHIP WAR ERROR TRAP SPACE WAR 3 MAZE MASTER 3 WIZARD'S DEN

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MASTER'S LABYRINTH
MORSE CODE MORSE CODE TELESALE CONTACTS PROMISED LAND QUIZ PROPOSAL WRITER ALPHABET SCRAMBLE 3 MAGIC PUMPKIN DR WHOS PART A FANGUAL

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ISSUE #94, APR. 1990 FLASH CARD REAL ESTATE USTINGS BIBLE QUESTIONS 1 SPELLING QUIZ 1 NO LEFT 3
PICTURE VIEWER 3 TANK SHOWDOWN TARZAR 5 ADVENTURE GENESIS 1011:1011:11

ISSUE #100, OCT. 1990 ZOT MIND GAME SUPER TEXT EDITOR SUPER TEXT FORMATTER TURTLE SEARCH 3 COAST TO COAST EASY BASIC 3
DRAGON ADVENTURE
WRITE OUT UTILITY TRYTHIS

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ISSUE #101, NOV. 1990 GOSSIP COST ESTIMATOR SALON INVENTORY)
PERSONAL STATISTICIAN
BINGO CALLER 3 ALAIX - 3
DEATH HUNT
512KRAMCATALOGER 3 DUCK HUNT

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ISSUE #102, DEC. 1990 REAL ESTATE ANALYSIS COCO PAYROLL COCU PAYHOLE
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Music 1-7

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M4 - 16 Musica Files
Musica
M5 - 25 Orchestra Files

M6 - 23 .Bin Files Ready To Run M7 - 23 .Bin Files Ready To Run

ADVENTURES L2

UILLIES F5

12 Programs Each, 1-4 Require Disk

12 Programs Each, 1-4 Require Disk

U1 - Backup 35, Basicmap, Timer, Tape-to-Disk,

U2 - Customize, DiskTest, MasterDisk, Offset, +

U3 - View 64, DiskAld, Disk Library, Alari, +

U4 - AutoBoot, MacPicture, StateLog, UniBack, +

U5 - Disassembler, Graph, PaintPot, Squeeze, +

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GA5 - Biackjack, Lazer, Tipen, Utopia, +
GA6 - Kings, Maze, Shuffle, Tempest, +
GA7 - Chase, City, Life, StarTrek, +
GA8 - Chuke, Germ, Hurkle, Lunar, +
GA9 - Chuł War, Go-Fish, Stock, UFO Maze, +
GA10 - Cave, HiLow, Scramble, Word Hurt, +
GA11 - Blorythms, Craps 3, Gunner, Martians, +

EDUCATION 1-4

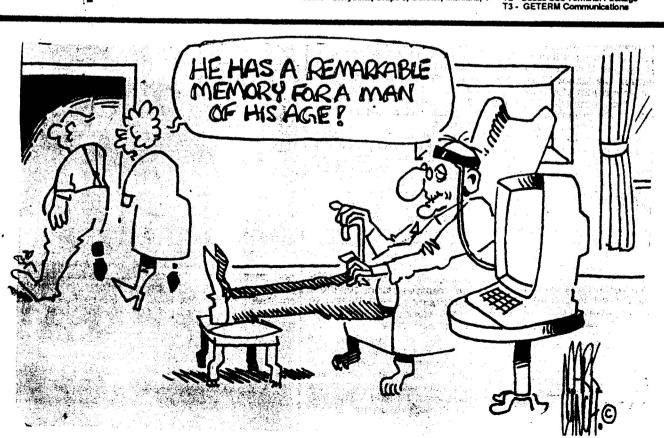
E1 - 12 Programs For Young Kids E2 - 12 Programs For High School Kids E3 - 11 Programs Teaching Coco Commands E4 - 5 Graphics Programs About Australia

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GR2 - Objects, Wargame, Worldmep, +
GR3 - 9 Coco 3 Graphic Programs
GR4 - 22 Coco Max Pictures
GR5 - 22 Coco Max Pictures
GR6 - 22 Coco Max Pictures
GR7 - 15 Coco Max Pictures
GR8 - 22. Bin Pictures
GR9 - 22. Bin Pictures
GR9 - 22. Bin Pictures
GR10 - 14 Large . Bin Pictures
GR11 - 8 Mge Pictures
GR12 - Coco Max 3 Pictures
GR13 - Macpaint Graphic Editor
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A Review by Robbie Dalzell

The M-R-MENU System (M) is a small version of the R-MENU System for Unix which was written in C. M is designed to merge in with the Shell and become a memory resident menuing system. The actual menus used by M are ASCII files created by your favourite word processor. The format for the menu files are quite simple and the actual syntax is identical to your standard command line.

OS9: M (menu filename)

M-R-MENU displays a menu centred on the screen in an overlay window. Displaying the window this way means that the screen below is left intact as it appeared when M was called. The menu size is dependant on the size of the menu file and the number of items displayed.

M defaults to a black border, blue background, white foreground and the current menu selection highlighted in red. The current selection is pointed to by an arrow => on the left margin. The message line, "Press S to call Shell, press X to Exit.", appears on the bottom line

Most of the above information comes from the 10 page loose leaf manual. the manual has 3 punched holes which allows it to be added to your OS9 manual. The manual is straightforward and easily understood. On the disk supplied there is a Directory named DEMOS where there are several samples and a working demonstration.

Making up a menu is pretty easy and only requires that you enter the options as required on your Word Processor. This menu consists of 4 types of lines:

- 1) The menu title line Name of menu
- 2) Selection line Description of job
- 3) Command line Any valid OS9 command.
 The above 2 lines must appear together.

4) Control line - Optional lines to enter REMS or alter the physical appearance of the menu.

There are three (3) options to the command line:

a) First is a pause option. This will run the command and then print a message "Press any key to continue." then wait for a keystroke before restoring the menu display.

- b) Second is the Shell Bypass Command. This causes N to fork to the programme on the command line without calling the new version of Shell.
- c) Thirdly is the Parameter Passing Command. With this option you can copy one file to another or add a note of up to 160 characters to a file.

There are four (4) types of control line. These lines are optional and do not need to be included in the file. These options control the physical abilities of the screen in colour, clearing the screen, adding comment lines and changing the method of picking the menu options.

CONCLUSION

The programme operated as described and no problems were found in making it function. The DEMOS were a help in seeing exactly how the programme was set up.

M-R MENU System would be handy addition to your OS9 library. The menu could be made to contain some of the more tedious operations called on while working long sessions of OS9.

(This programme is available from Microcom in the USA and should also be available from APD. See advert in this magazine). \mathbf{END}

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