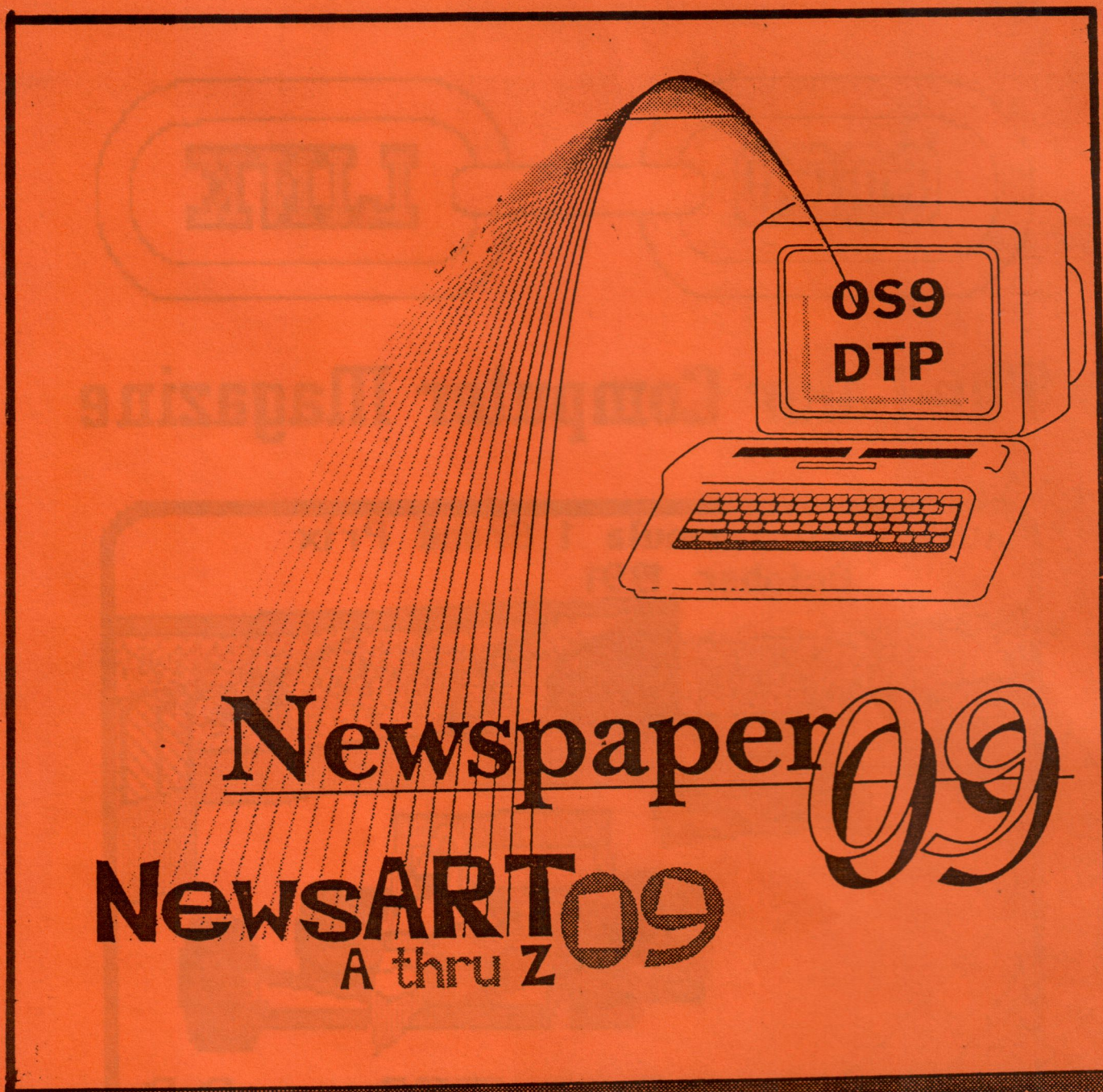
Oct/Nov 1991 Vol 4. No.5

COCO LINK

The Color Computer Magazine

Featuring:

Small Investor Pt.2
Invoice
Special SOS for Xmas
And much more!



Newspaper09

NewsART09
A thru Z

The BEST thing to happen to OS-9 DTP is NOW SHIPPING to customers with Epson-compatible printers (Star, etc.). Tandy DMP and IBM-compatible printer support should be completed by mid-August. Requires a minimum of 256k and OS-9 lv II.

Also, JUST released is NEWSART09, a 26-disk collection of quality clipart for use with Newspaper09. This "instant library" contains over 1300 usable pictures!

See SOS Pages

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COCO LINK

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COCO LINK

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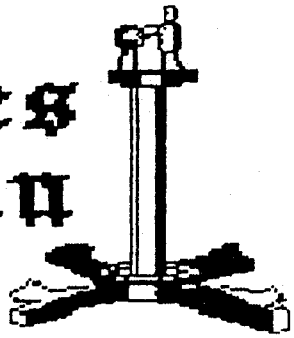
Robbies Column



THE NEVER ENDING STORY

I have, in the past, mentioned how I normally have no problems when ordering programmes from the USA. Here is the story of one of the abnormal times.

In November 1990 I ordered three programmes from a company in the USA called MICROCOM. This company is one of the major advertisers in Rainbow Magazine.
Three weeks later I received a parcel with two of the programmes. The third programme, an OS9 word processor, was marked "back ordered" on the invoice. I realised that this meant that the programme was not in stock and there would be a delay before I received it. So I waited patiently.
In the middle of January I phoned the company in the US and asked what had become of my word processor. I was told that the producers of the programme had not yet turned out a bug free working version of the programme. Considering that the programme had been included in their advert in Rainbow magazine for at least 8 months to this time, I found this statement a bit of a surprise.
Still, I was informed that the producers had promised a delivery date in mid February to early March. So I waited patiently.

In early April I again phoned the US to find out what the hold up was. I was told that the programme had still not been delivered but I would be receiving a letter shortly clearing up the matter.

A couple of weeks later I received the letter as promised which said that Microcom had given up on the producer (not surprising considering that they had now been advertising a non-existant programme for over 12 months). They offered to let me have any programme in their catalogue at a 15% discount as a reward for my unending patience. I got on the phone again and ordered a replacement programme.

Two weeks later my VISA account showed that the money I had paid for the original 'ghost' programme had been returned to my account.
This is where I made my great mistake!!!

I got on to the phone again and explained that I had ordered a replacement programme and that my money had been returned. What was going on? The reply was that they had no record of my order but that it would be rectified right away.

My next VISA statement showed that the FULL price had been deducted for the programme but as yet nothing had arrived.
You've guessd right.....On the phone again. Again they had no knowledge of my order even though they had my money. But once again it would be rectified and the programme would be put in the mail the following day. That was sometime in June.

Since then I have phoned three times. I also wrote a letter which probably crossed over in the mail. On the 8th August 1991 I received the programme ordered. I paid full price for it (I did not receive the 15% discount promised). Over the length of this saga it cost me approximately $40.00 in phone calls to eventually get the programme.
I have decded to leave it at that. I will not follow it up any further. They say it is best to quit while you are ahead. I have decided not to deal with this company in the future.

****

ROBBIE AND THE "C" LANGUAGE PROJECT

I am afraid that due to lack of time I have decided to give up on my attempt to learn C programming at this time. It is a subject which needs considerable concentration and study and I am afraid that I just do not have the necessary time.
Work and family commitments on top of turning out this magazine have sunk what little hope I had of acheiving this goal.
Still, over the last year I have picked up a fair amount of knowledge of OS9. Again, I have much to learn but at least I can find my way around the system.

Garry and I are hoping to run the programmes necessary to turn out this magazine on OS9. We do have a few problems to overcome which are not related to how the OS9 system works. These we hope to fix over the next few weeks. I'll let you know how we progress.

****

THE SOS EXPERIMENT

Well it seems as though the idea of ordering software from the USA through COCO-LINK has caught on. Last issue we advertised the T&D range of cheaper software to allow for the fact that we still have some subscribers who use cassette systems. Although the percentage of cassettes to disk was quite low, it still showed that we must still

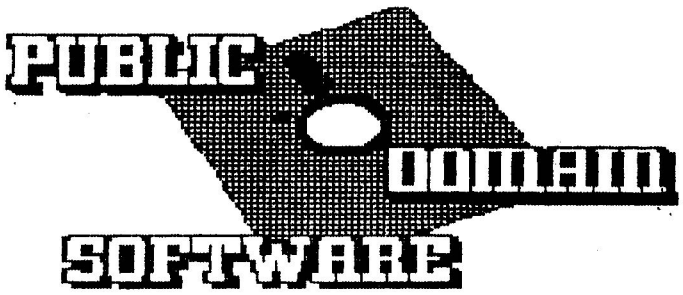
cater for this section of Coco Users.
In all, last SOS ordering period, we sent orders to the US for $440.00 worth of software. This shows that there is still a need and here at COCO-LINK we will continue to try and cater for it. I already have requests to include this catalogue of programmes again at a later date. This will be done some time in the New Year.
This added service has put more pressure on the limited time I can devote to this magazine but I will battle on and continue to do the best I can to keep interest in the best little computer ever built at the peak of its potential.
I must add that we still have suppliers of Coco Software in Australia and that SOS was not started to try and put them out of business. Far from it! SOS was started basically to see if there was a market out there and I think we have proved that there is. Someone should be making the most of it.
I do advise you to check prices with local stockists before ordering from SOS. You may find that they are cheaper. Our pricing policy at COCO-LINK is simply to put a fixed percentage on to the US price. This covers the varying rate of exchange, phoning through the order, any VISA charges invoked (I use my personal VISA card to order the programmes), postage from the US and postage and packaging for delivery in Australia.
Any 'profit' made from these transactions (the first trial cost us money and surely I have always said that we are a non-profit making organisation) go to to COCO-LINK and will help to keep our service as high as possible and our cost to you, the subscriber, as low as possible.
This months SOS has a bonanza of programmes to pick from. If you want software for Xmas this is the time to order it. We will not be including SOS in the December/January issue of COCO-LINK.

****

DYNACALC HELP
Garry, My assistant editor and friend, had a problem when he changed from Coco2 to Coco 3. His most used programme (DYNACALC - RSDOS Version) would not work on the Coco3.
We have now discovered, through a letter to the editor in Rainbow magazine of some considerable months back, that John Poxon of APD can supply an updated disk which will run on Coco 3.
All you have to do is send your original DYNACALC disk and $30.00 to John at APD (see advert in this magazine for address etc.) and he will send you an official updated version. He will also return your original.

****

Till next time
Robbie

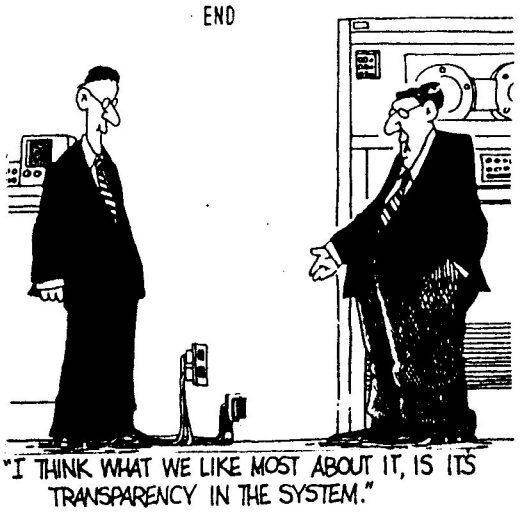


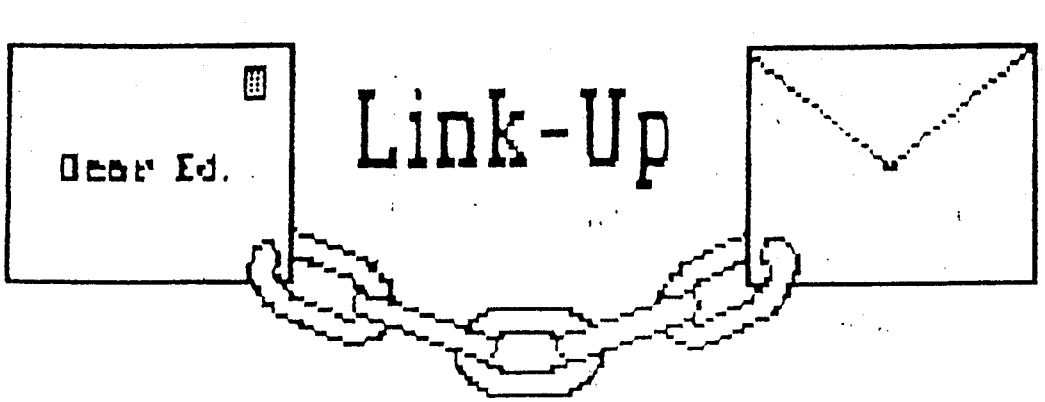
PD DISK 034 APPLICATIONS
****

This issue's Public Domain disk consists of four application programmes. These programmes have varied functions and should appeal to a wide variety of users. All of the programmes have appeared in the pages of COCO-LINK. The articles which accompanied them will be reproduced as DOC files on this disk so as to save you the trouble of looking for back issues. These DOC files can be read or printed using the PRINTDOC utility included on the disk.

HERITAGE This is a genealogical database which stores relevant information on the individuals in your family tree. It has a limited chart printout facility. A short sample file calle FAMILY/DAT has been included for your practice sessions.
SCRIPT is George McLintocks freehand writing programme. This will let you write letters in script to put a bit of variety into them.
CHANGE This programme allows you to change the script supplied with the above programme. With this you can make it look more like your own personal writing.
ADDRESS is the address labelling programme we use at COCO-LINK to label your bi-monthly magazine. The programme is also used as a database to store the names, addresses and phone numbers of all subscribers plus businesses we deal with.
PRINTDOC is the utility which will print the DOC files on this disk to screen or printer.

END





Dear Ed,
COCO-LINK PD disks have proved to be very useful; thank you very much. You have no idea how much the 'MATHS' has helped my 10 year old daughter. She could not do her maths very well, but she now has just got to put them up on disk #001 EDUCATION and she knows them.
My son who is 16 years old wants to become a Computer Programmer when he leaves school. He does work on CoCo magazines quite a bit, he looks through them and if there is a programme that he can do then he will do it.
Thank you very much for all the ideas and disks that you have sent to us. We also belong to the OS9 User Group as well but are thinking of dropping out as we don't get a lot of ideas like your magazine.

Mrs. S. Cooper. Leichhardt NSW

Dear Mrs. Cooper
It is nice to know that the work we put into COCO-LINK is appreciated. Thank you for the kind words. We love it.
Also on behalf of COCO-LINK we would like to wish Mr. Cooper a Happy Birthday.
I would like to suggest that if your son is planning on being a computer programmer in future years, your investment in the OS9 User Group could be of great signifcance. OS9 is a subset of the UNIX operating system and is used by many of the larger corporations around the world. A good basic knowledge of OS9 would be a step in the doorway toward Unix operating.
I have also found that my knowledge of OS9 made using MS-DOS so much easier.

****

Dear Ed,
Would you know of a program that would convert a disk listing from a magazine to a tape listing?
Also, is there a tape listing for COPYCAT on page 19 & 20 of the Aug/Sept COCO-LINK available?

Malcolm Reid. N.S.W.

Dear Malcolm,
There is no programme that I know of which will change disk based programmes to cassette based.
Because of the access possibilities of disk it is sometimes virtually impossible to change these over. For instance, Direct Access files for disk go direct to the particular item you require and can pick these items from the start or near the end of your data file in any order. This is not feasible with cassette based data files.

Programmes which use sequential files and load the whole of the data base into memory for manipulation can be changed over. In many cases this can be done simply by changing the device name:

```
#-1  = Cassette
 #1  = Disk
```

In other words, when you see a line like:

```
10 OPEN "I",#1,"Filename"
```

Change it to:

```
10 OPEN "I",#-1,"Filename"
```

This will change the Input of data from a disk to a cassette. The same change would have to be made with the output line:

```
10 OPEN "O",#1,"Filename"
```

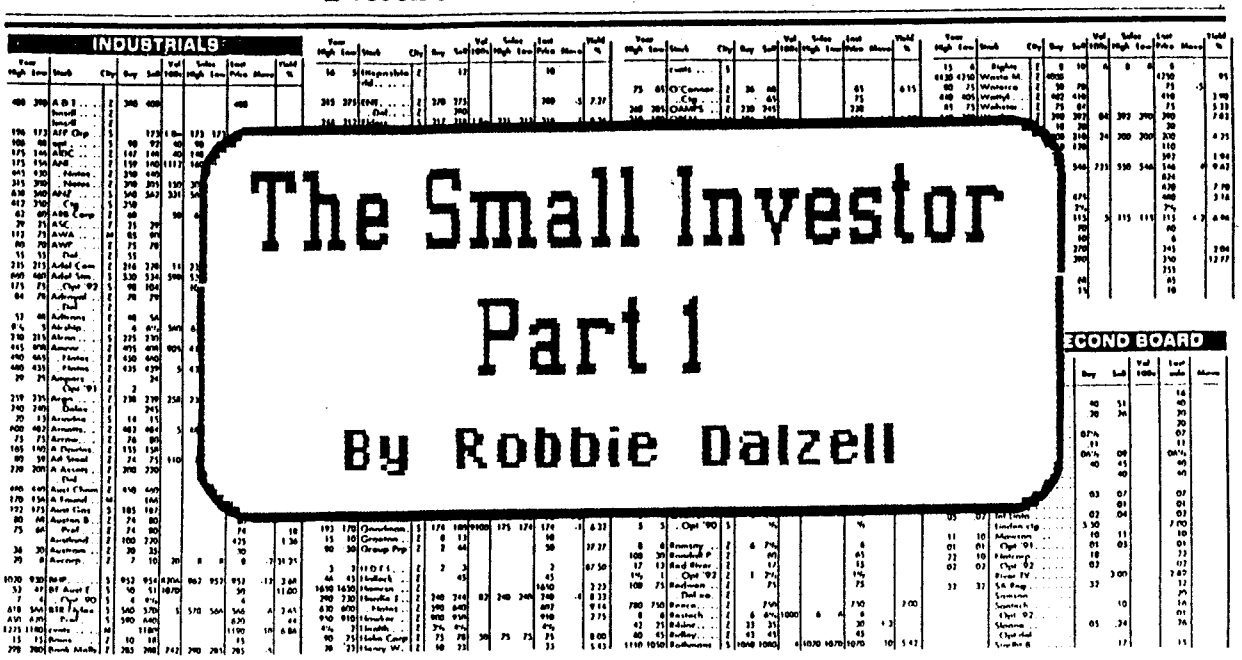
Quite often in programmes which cater for disk and cassette these device numbers are given variable names and will then allow you to pick whichever system you require.
There is no tape listing for "COPYCAT". I wrote this programme to cover a personal particular need. It reads the Directory of the disk and there is no comparable feature on cassette.

****

Dear Ed,
With regards to the letter from Ron Munro in August magazine in relation to PMODE dumps.
The old Tandy printers (and I think the old LP VII and V[II are in this group) use different control characters to start and end graphics. (These are CHR$(8) & CHR$(15)). Newer type printers use CHR$(18) & CHR$(30). If you really want to change the old program for the new codes, you have to find these bits in the program and change the control codes. Alternatively you can do an ML routine to intercept the output to the printer (along the lines of my PSKIP utility and change the control codes on the way through. This will work with Tandy graphics but not so easy with Epson style.
A better way of getting what he wants is to get another dump program to use. There are a number around for the

Continued on page 28

National Share Tables



This part of the series adds the routines to modify the data in the programme and also adds the first part of the Technical Analysis section. This is the Fundamental Analysis.

Like most people who programme I find that previously written parts usually have to be changed as the programme is developed. So it is with The Small Investor. Adding these data modifying routines has meant some changes to the first part of the listing.

Therefore, before adding the following listing to your programme, the changes noted below should be made to the listing which appeared in Part 1.

These changes and additions are as follows:

DELETE LINES: 140 and 2211

RENUM LINES: 1 to 7 to read 20 to 30

ADD THE FOLLOWING LINES:

```
18 POKE149,0:POKE150,18:'*** PRI
NTER BAUD RATE ***
80 CLS:INPUT"COMPANY NAME:- ";N$
81 FORK=1TO R:IFN$(K)-N$ THENRET
URN
82 NEXT
83 PRINT:PRINT"NOT ON FILE":RETU
RN
1015 LOCATE0,1:PRINTSTRING$(40,"
*");:IFF=2THEN1020ELSEGOSUB10000
1082 IFF=2THENRETURN
1163 IFF=3THENRETURN
1306 IFF=4THENRETURN
2235 IFF=4THENRETURN
2705 IFF=4THENK=Y:GOTO2720
2735 IFF=4THEN2750
```

CHANGE THE FOLLOWING LINES:

```
24 WIDTH40:ATTR0,0:CLEAR5000
28 DIMN$(16),D$(16,7),H$(16,5,4)
,A$(24),C(52,7),CH(52),LH(52):GO
TO9000
110 ON ZI GOSUB1000,1200,3000,13
0,4000,200
130 ZD$="TECHNICAL ANALYSIS/HI-L
O BAR GRAPH/POINT & FIGURE CHART
/FUNDAMENTAL ANALYSIS":ZY=3:GOSU
B50:GOSUB5000
1010 CLS:LOCATE0,0:PRINT"COMPANY
 NAME          ";:IFF=1THENINPUTN
$(R)ELSEPRINTN$(X)
2210 OPEN"D",#3,N$(X),36
2700 OPEN"D",#3,N$(R),36:GOSUB30
2710 FORK=1TO W
2720 GET#3,K
10010 GOSUB30:LSETC7$=STR$(999):
PUT#3,104
```

```
1020 PRINT"1 HOME EXCHANGE  ";:I
FF=1THENINPUTD$(R,1)ELSEPRINTD$(
X,1)
1030 PRINT"2 INDUSTRY GROUP ";:I
```

```
FF=1THENINPUTD$(R,2)ELSEPRINTD$(
X,2)
1040 PRINT"3 NO. OF SHARES  ";:I
FF=1THENINPUTD$(R,3)ELSEPRINTD$(
X,3)
1050 PRINT"4 PROFIT         ";:I
FF=1THENINPUTD$(R,4)ELSEPRINTD$(
X,4)
1060 PRINT"5 SHARES HELD    ";:I
FF=1THENINPUTD$(R,5)ELSEPRINTD$(
X,5)
1070 PRINT"6 PRICE PAID     ";:I
FF=1THENINPUTD$(R,6)ELSEPRINTD$(
X,6)
1080 PRINT"7 LAST REPORT    ";:I
FF=1THENINPUTD$(R,7)ELSEPRINTD$(
X,7)


1120 PRINT"1 YEAR           ";:IF
F=1THENINPUTH$(R,1,H)ELSEPRINTH$
(X,1,H)
1130 PRINT"2 HIGH           ";:IF
F=1THENINPUTH$(R,2,H)ELSEPRINTH$
(X,2,H)
1140 PRINT"3 LOW            ";:IF
F=1THENINPUTH$(R,3,H)ELSEPRINTH$
(X,3,H)
1150 PRINT"4 EARNING/SHARE ";:IF
F=1THENINPUTH$(R,4,H)ELSEPRINTH$
(X,4,H)
1160 PRINT"5 DIVIDEND/SHARE";:IF
F=1THENINPUTH$(R,5,H)ELSEPRINTH$
(X,5,H)
```

MODIFY RECORDS

The Modify Records routines (Lines 3999 - 4620) allow you to alter any data which has been previously entered. This includes Company Details, Historical Data and Current Data for any company in any week.

The routines allow the redemption of mistakes and are a means of updating any information changes.

This section is menu driven and prompts make it very user friendly.

TECHNICAL ANALYSIS

Investment analysis is broadly split into two strategies, each with it's own devotees. These two strategies are the FUNDAMENTAL STRATEGY and the TECHNICAL INVESTMENT STRATEGY.

We will deal with the methods of analysis that have been incorporated in the programme. Many, many methods could have been used but I have stuck to the tried and true few that most people know of.

FUNDAMENTAL STRATEGY

The objective of a Fundamental strategy is to ascertain an approximation of a share's intrinsic value. Having done this, the fundamentalist compares this with the market price. If the intrinsic value is sufficiently above the market price, a fundamentalist will buy shares. If the intrinsic value is below the market price he will sell any shares he has.

A fundamentalist arrives at a share's intrinsic value by use of ratios and percentages calculated from the financial information released by companies.

Because of time lags between the end of the financial period and the release of information on company performance over that period, all of the calculations are necessarily based on historical data.

Some of the ratios used in this strategy are:

EARNINGS PER SHARE (EPS).

This is found in the monthly "Glossy" magazines and is recorded in the data collected for this programme.

The formula for calculating EPS is as follows:

$$\frac{\text{Net profit available for ordinary shareholders}}{\text{Number of ordinary shares issued}}$$

EPS is well suited to assessing the growth of a company.

PRICE/EARNINGS RATIO (P/E RATIO)

As the name suggests, this ratio is a derivative of the current selling price of a share and the earnings of a share.

The P/E fluctuates with the price of a share, which in turn is influenced by such things as investor confidence, future expectations, the inflation rate, and prevailing interest rates. Generally, investors will pay a high price for shares in companies whose earnings have been growing and are expected to continue in the same way. A comparison of P/E ratios of companies in the same industry will sometimes reveal a share that is under-priced in comparison to shares of other companies in the industry.

Alternatively, It could be said that shares with a high P/E are overpriced, and the selling price of those shares could be more prone to fall in the event of a market downturn.

This ratio is calculated by the programme but can be found in certain Daily Newspapers.

It is sometimes found as the Earnings Yield and is usually expressed as a percentage in this format.

DIVIDEND YIELD

This is calculated as follows:

$$\frac{\text{DIVIDEND PER SHARE}}{\text{MARKET PRICE OF SHARE}} \times \frac{100}{1}$$

This can alert the fundamentalist to the possible under-valuation or over-valuation of shares in the market. Depending on anticipated movements in the market, these calculations may also lead to the buying and selling of shares. For example, if the market appears to be in a

downward drift, the fundamentalist will be prone to sell shares with the lowest dividend yields, anticipating a downward movement in the market price to result in a more competative dividend yield.
These figures appear in the daily newspapers and the data is recorded in this programme.

These are only a few of the possible statistics to which an investor might turn to attempt to estimate the intrinsic value of a company's shares. The statistics described above deal mainly with the profitability if firms.

Using the FUNDAMENTAL ANALYSIS option will give you a text page where all the relevant information is collated together.

COMING SOON
Part 3 of the Small Investor will deal with the TECHNICAL STRATEGY and the graphs required for this option.
We will also cover printout routines for these pages.

```
3999 '*** MODIFY RECORDS ***
4000 ZD$="MODIFY MENU/COMPANY DE
TAILS/HISTORICAL DATA/CURRENT DA
TA/DELETE A COMPANY/RETURN TO MA
IN MENU":ZY=5
4010 GOSUB80
4030 GOSUB50:ON ZI GOTO 4040,405
0,4060,4300
4040 CLS:F=2:GOSUB1010:GOTO4090
4050 CLS:H=0:F=3:GOSUB1110:GOSUB
4500:GOSUB4400:GOTO4090
4060 CLS:F=4:R=X:GOSUB4600:GOSUB
2700:GOSUB1230:GOTO4090
4090 LOCATE0,20:PRINT"MODIFY WHI
CH LINE: ";:INPUTA
4100 PRINT"PRINT NEW LINE: ";:IN
PUTNL$
4110 ON F GOTO100,4120,4130,4140
4120 D$(X,A)=NL$:GOTO4200:'***CO
MPANY DETAILS
4130 H$(X,A,H)=NL$:GOTO4200:'***
HISTORICAL DATA
4140 C(X,A)=VAL(NL$):'***CURRENT
 DATA
4200 GOSUB68
4210 I$=INKEY$:IFI$="C"THENGOSUB
4400:GOTO4090
4215 IFF=4 AND I$="R" THENGOSUB2
210:F=1:RETURN
4220 IFI$="R"THENF=1:GOSUB2000:R
ETURN
4222 IFI$=""THEN4210
4299 '*** DELETE A COMPANY ***
4300 OPEN"D",#3,N$(X),36:GOSUB30
4302 FORK=1TO140
4304 LSETC1$="":LSETC2$="":LSETC
3$="":LSETC4$="":LSETC5$="":LSET
C6$="":LSETC7$=""
4306 PUT#3,K:NEXT
4308 CLOSE#3:KILLN$(X)+"/DAT"
4309 RETURN
4310 FORK=1TO7:D$(R,K)="":NEXT
4320 FORH=1TO4:FORY=1TO5
4330 H$(X,Y,H)="":NEXTY:NEXTH
4335 N$(X)="":R=R-1:GOSUB2000
4400 LOCATE0,20:PRINTSTRING$(80,
" "):RETURN
4500 LOCATE12,20:PRINT"THIS ONE
(Y/N)?"
4510 I$=INKEY$:IFI$="N"THENCLS:G
OTO1110ELSEIFI$="Y"THENRETURN EL
SEIFI$=""THEN4510
4600 CLS:PRINT"WHICH WEEK (1 TO"
W")";:INPUTY
4610 IFY>W THENPRINT:PRINT:"WEEK
 NUMBER TOO HIGH, TRY AGAIN.":GO
TO4600
4620 CLS:RETURN
```

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.

ML 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.

LETTERS TO THE EDITOR:
Hand written letters will be accepted subject to the length. Long letters should be submitted on disk in the manner above for articles.

All disks and cassettes will be returned in due course.

Review

You have been chosen to pilot the spacecraft wielding the plutonium plasma laser against the nefarious insectoids, the Zenians. These bugs have been ripping off the space trade lines for years, now they're about to find a victim who can fight back! Beat back the swarm of pests to their home planet Zenix, and use the laser to end the menace once and for all. Zenix is a lightning fast arcade game for the 128K CoCo 3. The 320x225 16 color graphics are amazing, as are the digital background music score and effects, all on a 128K computer! The fast action and game play will astound you in this GALAGA of extermination.

Zenix is one of those shootem up arcade style games. I personally find them boring, but recently passing the local amusement arcade I saw that these type of games still draw many of the younger people.

Zenix is a souped up version of Space Invaders and is played using the same system of joystick and fire button. The game's redeeming feature is the very high standard of the graphics involved. Waves of colourful space "things" swirl around the screen in a variety of patterns with the odd one breaking off to actively chase you round the bottom half of the screen. Your ability to move up and down as well as horizontal helps you avoid these chasers while trying to avoid enemy missiles.

Each wave of "intruders" increases in difficulty as does the attempts of disposing of them.

This game also invokes that annoying message which seems to recur very frequently when I play them, i.e. "Game Over".

As I have already recorded, this type of game does nothing for me but I feel that the first class graphics and the variety of animation effects, plus the speed of the action, will hold the interest of arcade gamesters for quite a while.

One for the younger ones.

Zenix can be ordered through the ordering system (SOS) for $48.00.

E N D

Exchange and Mart

FOR SALE
****

PRINTER DMP106
In excellent order - Includes Operating Manual
$120.00
Contact: Margaret Bell
12 Greenhill Ave.
Figtree
NSW 2525
Ph.(042) 715 924

****

LEARNING THE 6809 - Assembly Language tutorial
On 12 audio tapes with full tutorial book
All in hard binder
$50.00

PROGRAMMING THE 6809 - By Rodney Zaks
Top Technical tutorial book
Bargain at $25.00

DYNASTAR + DYNASPELL - OS9 Wordprocessor & Spell checker
Never been used
Cost $178.00 ex USA
Yours for $99.00

DOUBLE SIDED SLIMLINE DRIVE + CASE AND POWER SUPPLY
$100.00 Plus postage if required

contact: Robbie Dalzell
21 Nedland Cres.
Pt.Noarlunga Sth.
SA 5167
Ph.(08) 386 1647

****

WANTED
******

CGP 220 COLOR PRINTER

contact: Bob Barker
PO Box 711
Liverpool
NSW 2170

Software Ordering Service

SOS NEWS
****

This month we have a large selection of programmes to choose from. This has been done because the Xmas period will soon be apon us. If you want to order software in time to put it in the old Xmas stocking you will have to do it now. We will NOT be including SOS in the Dec/Jan issue of COCO-LINK.

The List opposite includes games utilities, Graphics and application programmes to suit every need. I am sure you will be able to find something there to suit your needs.

Note the latest desktop publishing programme for OS9 advertised on yhe inside of the front cover. These programmes are included in the lists opposite.

Last issues SOS was our most subscribed with a total of $312.00 of orders. It would seem from this that the service is doing what it was intended to do. Should you have any suggestions for improvement we are very willing to listen.

Let SOS help you to have a Merry Xmas.

THE RULES
****

The following are the conditions for use of the COCO-LINK Software Ordering System:

1) Only the programmes listed each COCO-LINK issue can be ordered.
2) Prices are listed in Australian Dollars. These prices include all postage and other costs.
3) 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.
5) No returns will be accepted by COCO-LINK and no refunds will be given on returned programmes.
6) Software should be delivered within four (4) weeks of final order date (barring holdups in USA).
7) Send orderforms and cheque/money orders made payable to COCO-LINK

==========

SOS ORDERING FORM

PROGRAMME NAME	QTY	PRICE
.....	.....	.....
.....	.....	.....
.....	.....	.....
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	TOTAL	TOTAL

CHEQUE/MONEY ORDER No. .....

NAME AND ADDRESS: .....

SIGNED: .....

==========

ORDERS MUST BE RECEIVED BY 29/10/91

Item Name	Description	CoCo	
BASH!	Excellent "Arkanoid" clone. SALE!	3	$30.00
Big Basic	Create programming windows allowing 92k from a 128k CoCo, or 476k on a 512!	3	$60.00
Big RAMdisk	The BEST RAMdisk. Run up to 720 and 4 RAMdisk w/ One-meg of memory!	3	$20.00
Caladuril- Flame of Light	Mystical graphic adventure.	23	$32.00
Caladuril II	Fantastic graphic adventure! 100's of hours of play! SPECIAL SALE!	3	$40.00
Checkbook +	Point & click checking account management w/graphing. VERY full-featured!	3	$40.00
CoCo Archiver	Archive (squeeze) files with descripive memos, list DIRs in 4 columns. GREAT!	3	$28.00
CoCo Graphics Des. Plus	Produce greeting cards, banners, signs, etc. Incl. fonts, pics, borders. SALE!	23	$32.00
CoCo Yahtzee	Nice Yahtzee game. Req. Windint module from Mvue	3	$16.00
CoCothello	OS-9 othello! Nice. Req. Windint module from Mvue	3	$16.00
Colormax	Great graphics editor!	3	$16.00
Colormax Deluxe	Excellent graphics editor. Load, save & convert GIF pix!	512k 3	$32.00
Crystal City	Super-fast action/arcade game! Great graphics & digitized sound.	3	$55.00
Data Merger	Mail-merge util for Data Windows. SALE!	3	$27.00
Data Windows 1.1	The BEST OS-9 lv 2 database! Req. 512k.	3	$95.00
Digger	Nice "Gold-Runner" clone.	3	$32.00
Disk Manager Tree	Use windows to view, delete, copy, etc. with single keystrokes! req. 512k. SALE!	3	$40.00
DMA	Just released. Incredible new file handling & management utilitty set.	3	$48.00
EZ Gen 1.09	Create bootfiles EASILY! Req. OS-9 lv 2	3	$32.00
File Recovery System	helps to rebuild crashed disks! Req. OS-9 lv 2	3	$40.00
File System Repack 1.1	Defragment your disks. Req. OS-9 lv 2.	3	$48.00
First Prize	Create awards, certificates, diplomas, etc. 10-disk set, w/box & manuals. SALE!	23	$72.00
Flight Simulator II	EXCELLENT simulator! New, sealed!	3	$15.00
Hall of the King Trilogy	Excellent adventure series. Incl. Hall of King 1, 2, & 3! 100's of hours of play!	123	$110.00
Japan Scenery Disk	additional scenery for Flight Simulator II! Cruise Tokyo & Osaka	3	$32.00
Klondike Solitaire	Nice version of this classic game, for OS-9! Req. Windint module. Just released!	3	$24.00
Knightsbridge	An interesting chess variant for OS-9. Req. Windint module from Mvue	3	$16.00
Kyum-Gai: to be Ninja OS-9	Excellent martial arts game. Req. OS-9 lv 2. Play several in different windows!	3	$46.00
Label Designer	Creat labels w/text & graphics. Do several label sizes. SALE!	23	$32.00
Level II Tools	25 useful utils for OS-9 lv 2 (different from Tools II).SALE!	3	#36.00
Memory Master	Scan, printout, edit, copy ANY computer or disk memory! Restore killed files!	3	$40.00
Minefield	Deliver a secret msg, but watch out for mines! OS-9. Req. Mvue	3	$16.00
Mini-Banners	Print multiple-line banners on ANY printer, even daisy-wheels!	3	$27.00
Multi-BASIC	More memory for BASIC without learning new commands! 128 or 512k.	3	$40.00
Multi-Menu	Create pop-down menus easily! Req. 512k, OS9l2, Multivue.	3	$32.00
MV Canvas	The BEST graphics editor for OS-9 lv 2! Req. Multivue, 512k.	3	$80.00
MVBanner	Do printer banners from Multivue! Pull-down menus, onscreen preview, more.	3	$32.00
Newsart09 A thru Z (set)	Req. Newspaper09. OVER 1300 clipart pictures on 26 disks! Ind. disks $9.95	3	$150.00

Item Name	Description	CoCo	Price
Newspaper09	Req. OS-9 lv2, Epson-compat printer. THE Desktop-publishing system for OS-9!	3	$78.00
OS-9 Level 2	Complete w/ full documentation, sealed!	3	$56.00
OS-9 Lv 2 BBS	Complete BBS system, ready to run! Req. 512k, OS-9 lv 2.	3	$48.00
Overlord	Military strategy game, very challenging!	3	$47.00
Presto-Partner OS-9	RAM-resident desktop accesories! Calendar, calculator, more.	3	$48.00
Presto-Partner OSk	Presto Partner for OSk machines (MM1, TC70, Delmar)		$64.00
Quest for Thelda	Excellent graphics & digitized sound. Clone of Nintendo's "Zelda".	512k 3	$52.00
Quest of the Starlord	Graphics adventure w/animation. SALE!	3	$46.00
R.S.B.	Disk BASIC for OS-9 lv 2! Bring your BASIC programming skills to OS-9!	3	$64.00
Sea Battle	"Battleship" game for OS-9! Req. Windint module from Mvue	3	$16.00
Seventh Link	EXCELLENT graphic adventue w/animaton!	3	$60.00
Shellmate	Point & click file management for OS-9 lv 2! Req. Multivue, 512k.	3	$40.00
Simply Better	The BEST word processor for RSDOS! Very full-featured. SPECIAL SALE!	3	$48.00
Sinistaar	Fantastic clone of the arcade game!	512k 3	$52.00
Studio Works/PRO	The BEST sound sampling/digitizing program! Supports up to one-meg! SALE!	3	$62.00
Super Big Basic	Big Basic, with added support for ONE-MEG from BASIC!!	3	$72.00
Those Darn Marbles	EXCELLENT marbles game, with fast hardware scrolling!	512k 3	$60.00
Tools II	27 useful tools for OS-9 lv 2! Incl. Window, Process, Script utils & more!	3	$56.00
Utilities Package	6 ML utils. Run both sides of a DS drive, even as one BIG drive! Other utils.	3	$28.00
Wild & MV	Wildcarding, and moving of directories. Req. OS-9 lv 2	3	$32.00
WPShel	Point & click user-interface for Mvue. Use any OS-9 editor, formatter, & spellcheck	3	$35.00
Zapper OS-9	Patches anything! Fix CRC's, save lost files, etc.	3	$32.00
Zapper OSk	Zapper for OSk machines (MM1, TC70, Delmar)		$48.00
Zebra Add-ons	Mix 'n match sale on Pic disks 1-6, Font disks A & B, Border disk 1. Any 3 for $25!	23	$40.00
Zenix	the BEST and FASTEST arcade game EVER done for the CoCo!	3	$46.00
[redacted]	The BEST "Zaxxon" clone EVER! SALE!	3	$[redacted]

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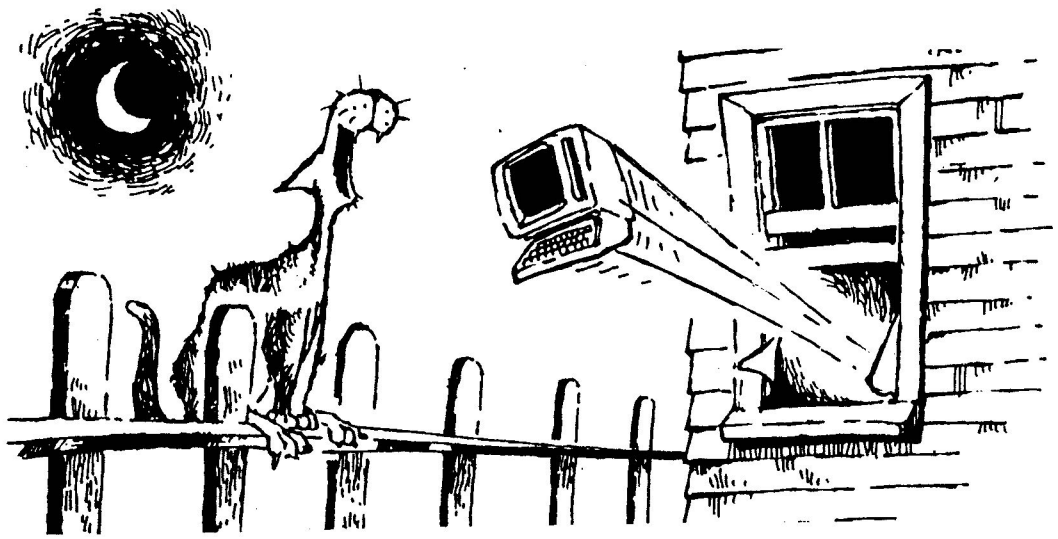
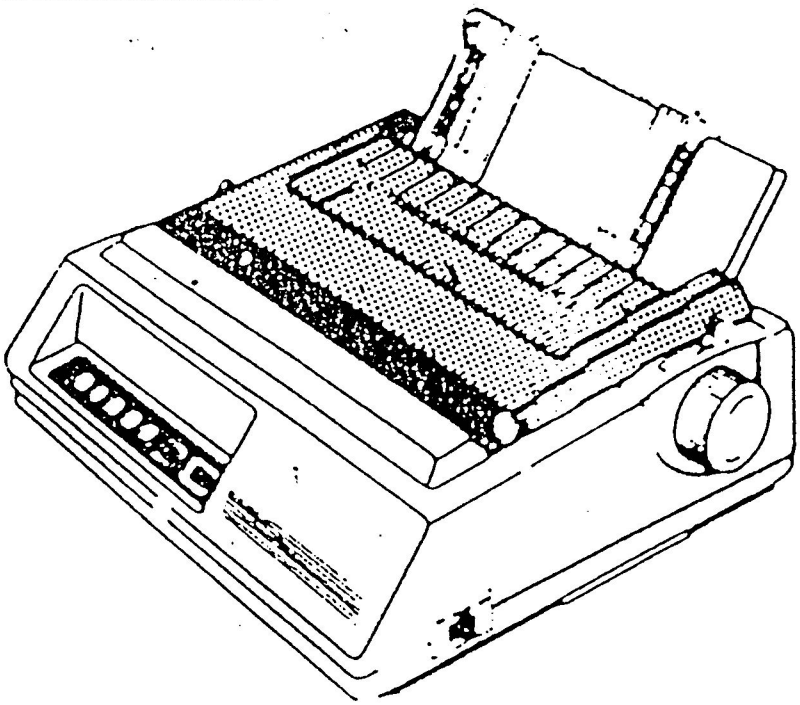


Graphics with Dot Matrix Printers Part 2



By George McLintock

CGP-220:
The CGP-220 does color scan graphics in a way which is conceptually similar to the Deskjet/Laser jets, except that it uses a mechanical movement of the print head to print each row of raster scan graphics as they are set up (as well as printing in color). The print head does a single row of dots at a time, even when printing text. It has a column height of one dot. In fact, the print head is always parked on the left side of the printer. It waits until two raster scan rows have been set up, and then prints both rows as the print head moves across the page and back again.

For color, the raster scan line contains 3 bits for each dot to be printed, and these follow each other. eg to print 640 dots across the page, the raster scan line contains 240 bytes. The first 80 bytes contain the bits for the red color, the next 80 bytes for green and the last 80 for blue

The color codes work so that if the red dot is on, and the blue and green dots are off, then a red dot is printed in that position. If red and blue are on, and green off, then these two colors are overprinted to give a magenta color. (red + blue). Likewise for the other two color mixes

Some reverse type logic is used for black and white. If all bits are on, then no color is printed (ie is white). If all bits are off, then a black dot is printed.

The color ink cartriage for the printer actually contains Cyan, magenta and yellow ink, so that what appears to be the primary colors from the software color codes do not translate to single ink colors. I am sure there must be a logical reason for this, but I have no idea what it is.

COLORS WITH DOT MATRIX PRINTERS
Dot matrix printers obtain different colors on the paper by printing with different colored ribbons. Printers with a color option do this with a special ribbon that has four strips (rows) of different color fabric in the same ribbon. They also have a mechanical device that can raise and lower the ribbon so that the print head actually prints through a different part of the ribbon to produce different colors on the paper.

These printers produce multi colored dumps by doing multiple passes of the print head for each single row of dots across the page. eg it does a pass across the paper using the red color ribbon to print all the red dots in that row. It then does a second pass with the blue color ribbon to print all the blue dots in that row and etc for the other colors. They can do this because the printers allow for a separate carriage return (move print head to left margin) without doing a line feed at the same time.

Although these printers normally have only four separate colors in the ribbon, you can obtain a large number of different colors on the paper by a mixture of overprinting and masking of the dots printed. eg the 4

colors on the Star NX-1000 are black, red, blue and yellow. You get a green color on the paper by printing the dots first with the yellow color and then overprinting the same dots with the blue color to make it look green.

Simple overprinting provides an extra 3 colors. Extra colors require a form of color mixing using masks. Masks are used for two purposes. To provide a different appearance in the dump for different pixil colors, and to allow color mixing to extend the apparent colors produced by a printer.
The normal mask operation performed is an AND mask, but this can be changed to an OR mask if desired. An AND mask compares bits, and the result is a 1 if both bits are on, and zero for all other cases.

```
 eg Source byte  =  1 1 0 0 1 1 0 0  = Hex CC
    Destination  =  1 0 1 0 0 1 0 1  = Hex A5
    Result byte  =  1 0 0 0 0 1 0 0  = Hex 84
```

The appearance of a pixil color in a dump is altered by masking out some of the dots before they are printed. eg a solid area of a pixil color on the screen would be printed as

```
B B B B B B B B
B B B B B B B B
B B B B B B B B  etc
```

Where B represents a black dot on the paper.
A lighter color can be produced by masking out alternative dots in a pattern

```
eg B W B W B W B W
   W B W B W B W B
   B W B W B W B W  etc
```

Where W represents white or paper color (ie no dot printed)
For an Epson type printer, this effect is produced from a mask of Hex AA55
A large number of other masks can be defined

COLOR MIXING:
Different colors in a dump are produced by doing a separate pass of the print head for each ribbon color. ie all red dots in a row on the paper are produced from a single pass of the print head using a red ribbon, then the blue dots with a blue ribbon etc for the other ribbon colors.

Color mixing is obtained by using different masks on the same pixil color and printing the results with different ribbon colors. eg the first example above shows a solid black color where no mask is applied. The second example will produce a lighter looking black color on the paper
If we use the second example above, and apply a mask of Hex 55AA to the same source data for the pixil, and print the results with a second pass of the print head with a red ribbon. The dots which were left white on the first pass will be printed red on the second pass

```
eg B R B R B R B R
   R B R B R B R B
   B R B R B R B R etc
```

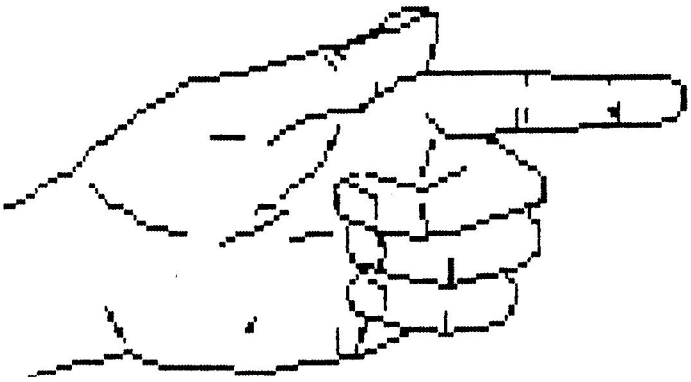
Where B = black dot and R = red dot
This will appear on the paper as a dark red color.
Different masking patterns, with different ribbon colors, allow a large number of possible printer colors to be produced. It is also possible to extend the process to more than two passes of the print head for the same pixil color. eg to mix 4 or more printer colors for a single pixil color.

SINGLE COLORED PRINTERS:
With suitable software you can obtain a similar sort of multi-colored dumps from a normal single color printer. You can get different single color ribbons for most of the more popular printers these days. ie get a red ribbon instead of the normal black one etc.

With these, you need a slightly different approach to color mixing. For printers with a color option, the different colors are printed in sequence for each row of dots across the page. For other printers, you need to do the complete dump for one ribbon color, then backspace the printer, change the ribbon manually, and then repeat the whole dump for the next ribbon color.

With a bit of reasonable care in re-positioning the paper you can obtain quite good multi colored dumps with these printers.

George McLintock



Better BASIC Part 17

By Keiran Kenny

Partial Screen Saves
by Keiran Kenny

In a recent article, Johanna Vagg pointed out that you could save part of a graphic screen as a binary (ML) file. Of course I had to try that.

In this demonstration program, a distinctive shape is put into each of four quarter screens. In order, from top to bottom, each quarter screen is saved as "SCRA" to "SCRD" as in lines 60 to 90. Press E to erase the screen and then load and display the quarter screens by pressing keys A, B, C and D in any order.

When I started to work out the begin and end point for each quarter screen my arithmetic showed, but I soon got the problem simplified as follows.

There are 6144 bytes in a full PMODE4,1 screen so a quarter screen contains 1536 bytes. The screen is stored in the memory area 3584 - 9727 (for disk use). For the end of the first quarter screen save, add 1536 to 3583 (= 5119). Add one to 5119 for the beginning of the next quarter screen and add 1536 to 5119 for the end value (6655), and so on.

```
0 'PARTSAVE' COPYRIGHT (C) 1990
  KEIRAN KENNY
10 PMODE4,1:COLOR0,5:PCLS:SCREEN
1,1
20 LINE(20,2)-(235,46),PSET,B
30 CIRCLE(128,72),23
40 DRAW"BM20,140E30R205G30L205"
50 CIRCLE(128,168),126,,.15
60 SAVEM"SCRA",3584,5119,40999
70 SAVEM"SCRB",5120,6655,40999
80 SAVEM"SCRC",6656,8191,40999
90 SAVEM"SCRD",8192,9727,40999
100 K$=INKEY$:IFK$<"A"ORK$>"E"TH
EN100
110 IFK$="E"THENPCLS:GOTO100
120 LOADM"SCR"+K$
130 GOTO100
```

Get Acquainted with PCOPY
****

Here's a fun way to get acquainted with CoCo's PCOPY command and what you can do with it.

The PMODE4,1 screen consists of four graphic pages, 1 to 4 counting from the top of the screen. Each page consists of 1536 pixels and takes 1536 bytes of memory. A full PMODE4 screen takes thus 4 x 1536 (6144) bytes of memory. It is stored at memory locations 3584 to 9727 (disk) or 1536 to 7679 (tape). These are the parameters used when you (C)SAVEM a PMODE4,1 screen to disk or tape. To store (save) your four graphic pages in CoCo's memory you have to open up another four pages, 5 to 8 (PCLEAR8), as in line 10.

The screen displays four distinguishable shapes, numbered 1 to 4 according to the graphic pages on which they appear. Line 70 PCOPYs page 1 to page 5, page 2 to page 6 and so on.

You can then experiment by changing the order of the original pages on the screen. Press a number (1 to 4) for the graphic shape you want to copy and a second number for the page (1 to 4) you want to copy it to. To restore the original order, type 1 - 1, 2 - 2 etc.

Experimenting with the PCOPY statement can add a dimension to your PMODE graphic programming. It is a pity that no such facility exists in the CoCo 3 logic.

CONTINUED ON PAGE 28

In the simulation generated by the following programme, we have two forms of cell living in a culture. Both cells feed on nutrients in the culture medium and attempt to reproduce as the simulation runs.

The cells are known, fairly imaginatively, as cell X and cell Y. As well as eating the nutrients in the culture medium, cell X also needs to consume cell Y to survive. If there are too many of cell X it will kill off all of cell Y, and will then die itself. If there are none of cell X, cell Y will reproduce wildly, and choke the medium.

You are allowed to set the starting numbers of cells in each run of the simulation. Your goal is to try to create a population balance which will allow the cell colony to survive for as long as possible.

The "degree of aggressiveness" or "strength" of cell X is shown to you when you run the programme. It is generated by the end of line 50 in the listing and is assigned to variable FD. The listing says FD=RND(0) which is designed to return a value between 0 and 1.

The degree of aggressiveness of cell X towards cell Y changes from run to run of the programme so that you can't just learn which numbers will always give a long life to the simulation. It will not change within a single set of runs, so you can try various combinations to see how they behave.

The programme starts by reporting the "strength factor" of cell X compared to cell Y and then asks you to enter the starting populations as follows:
Strength factor is .238736 (this number will change from run to run so this is just an example of what you can expect).
Enter number of cell X to start (less than 30)? 7. We have 7 X cells.
Enter number of cell Y to start (less than 30)? 8. We have 8 Y cells.

Once you have told the programme how many of each cell you wish to start with, the computer will work out the history of your cell cultures, reporting the action to you as it proceeds:
Please stand by.....

```
Time elapsed:0
7 cell X
8 cell Y

Time elapsed:1
15 cell X
7  cell Y

Time elapsed:2
37 cell X
4  cell Y

Time elapsed:3
28 cell X
1  cell Y
```

The simulation ends when either population falls below 2. The programme will report to you on how long this run lasted as follows:
Your microbe war simulation lasted for 3 time periods. You started with 7 X cells and 8 Y cells. the best survival time so far is 3. Do you want a new run (Y or N)?

If you tell the programme you want a new run it will allow you to enter new "starting colony" numbers, but will not change the "strength factor", so you can

experiment to get the longest possible life for your colony.

The programme keeps track of the 'longest life so far', so you know which duration you're striving to beat in subsequent runs.

END

```
10 ' MICROBE WARS SIMULTANEOUS E
QUATIONS
11 ' BY TIM HARTNELL
20 CLS
40 A=RND(-TIMER)
50 HS=0:FD=RND(0):'FD MUST BE BE
TWEEN 0 AND 1
60 PRINT:PRINT"STRENGTH FACTOR I
S";FD
70 GOSUB 410:CLS:PRINT:PRINT
80 PRINT"enter number of cell X
to start (less than 30)
90 INPUT CP:PRINT:PRINT:IF CP<1
OR CP>29 THEN 80
100 PRINT"we have";CP;"X cells":
PRINT:PRINT
110 PRINT"Enter number of cell Y
 to start (less than 30)"
120 INPUT EP:PRINT:PRINT:IF EP<1
 OR EP>29 THEN 120
130 SX = CP:SY = EP:DA=-1:CLS:PR
INT:PRINT"PLEASE STAND BY..."
140 IF CP>EP/FD THEN CP=EP/FD
150 '*************************
160 'MAJOR CYCLE
170 GOSUB 410:DA=DA+1:PRINT"----
----------"
180 PRINT"TIME ELAPSED";DA
190 IF DA =0 THEN260
200 IF CP>EP/FD THEN CP=EP/FD
210 'EQUATIONS FOLLOW; MODIFY PA
RTS OF THEM TO SEE WHAT HAPPENS
220 CP=CP+((8*CP-CP*EP/3)*FD)
230 EP=EP+((4*EP-EP*CP)*.01)
240 CP=ABS(CP):EP=ABS(EP)
250 IF CP>1000 OR EP>1000 THEN C
P=CP/100:EP=EP/100
260 PRINT INT(CP);"CELL X":PRINT
 INT(EP);"CELL Y"
270 IF EP<2 OR CP<2 THEN 300
280 GOTO 170
290 '*************************
300 PRINT:PRINT:IF DA> HS THEN H
S=DA
310 PRINT"Your microbe war simul
ation"
320 PRINT"Lasted for";DA;"Time p
eriods."
330 PRINT"You started with";SX;"
X Cells and";SY;"Y Cells"
340 PRINT"----------------------
---"
350 PRINT "The best survival tim
e so far is";HS:GOSUB 410
360 PRINT "----------------------
---"
370 INPUT"Do you want a new run
(Y or N)";A$
380 IF A$ = "Y" OR A$ ="y" THEN
CLS:GOTO 60
390 PRINT "OK":PRINT:PRINT:END
400 ' *************************
410 FOR J=1 TO 2000:NEXT J:RETUR
N
```

Accounts received

Invoices

Payment Due

Received Client Number

By Robert Kenny

This Programme is one that had a small beginning and just kept on growing. It started of as a few lines of code to do a simple invoice and ended up in it's present form. Coco 1 and 2 owners with 64K can use it with a few modifications, Removing the LOCATE N, N and converting the PRINT statements to PRINT@'s. The programme is well prompted and needs few instructions. It will prompt for the necessary information at the relevant screens.

In the SAVE routine I have set the files out the way I require for my own filing system, but they can be changed to suit your own particular needs without too much trouble. They could be formed into one file if you so wished. I find that leaving the address files on there own allows you to load a previously saved address file from disk. This is handy if you have forgotten the address of your client. This method of saving files uses up disk space quickly, but after each payment is made, I transfer the relevant data needed for records and tax purposes to my filing system and then delete them from the invoice data disk.

This saves having a heap of data disks to hunt through for a particular file. I find that one double sided disk is sufficient for my needs. The last letter on the extension of each address file indicates to which file it belongs. ie ADI is the extention to the address for an invoice file.

Here is a quick look at how to enter an item:

1. ENTER INVOICE ITEMS. On this and all routines that data has to be entered, the first thing you will be asked to enter will be the clients name, address, city/towm and post code, date and invoice number. On the printout the name and address have been set out for the use of window type envelopes saving the need to address them.

Next you will be asked to enter an item, (Press ENTER after each input of data)

ie Brushes. then quantity, 10.

If you are entering a liquid measure such as a 4 litre tin of paint it should be entered in this format:

1x4 ltrs. (Use an "x" not a"*").

Next enter the cost of the item, 21.25

There is no need to enter a dollar sign as the programme takes care of that. On pressing enter you will see the total for that item plus the running total for all items that have been entered.

You will then be asked if you want to enter another item. A "Y" will return to the start of this routine, an "N" will ask you if you want to give a discount. A "Y" will ask for the amount of the discount and an "N" will return you to the menu. On entering a discount just enter the amount. ie 15 don't use the percent sign (%)

I hope that this programme will be of as much value to you as it is to me. The programme was written with sub contracting in mind, but could be converted to other uses quite easily.

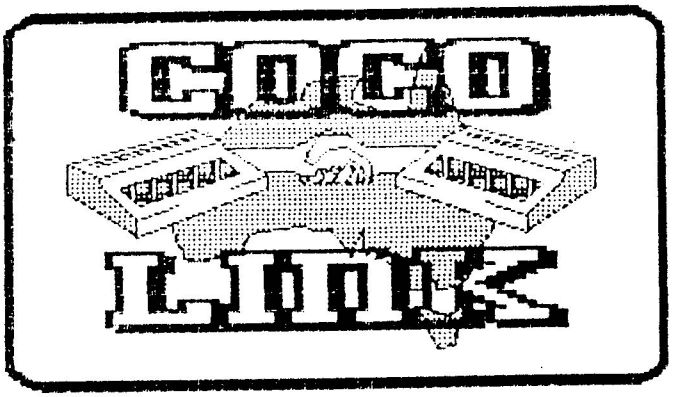
A future edition will carry my programme for the logging of sub-contactor hours etc.

CONTINUED OVERLEAF

```
10 CLEAR200,&H7F00:Y=&H7F00:DEFU
SR0=Y:X$="8E4558BC800026045F7E96
9539":FORZ=1 TO LEN(X$)-1STEP2:Y
$=MID$(X$,Z,2):POKEY+Z/2,VAL("&H
"+Y$):NEXTZ:A=PEEK(&HB7):POKE&HB
7,PEEK(&HBC):X=USR(0):POKE&HB7,A
:
20 WIDTH80:ATTR3,2:CLS:'*** <C>
ROBERT E KENNY 26th AUGUST 1987
***
30 LOCATE16,10:PRINT"An Invoice
Program":LOCATE36,12:PRINT"by":L
OCATE40,14:PRINT"Bob Kenny":LOCA
TE50,16:PRINT"<C> 1987"
40 FOR Q =1 TO1200:NEXTQ
50 CLEAR1500:DIMPL$(3,60),CQ$(20
):CLS
60 CLS:LOCATE34,2:PRINT"MENU"
70 LOCATE15,4:PRINT"1 -> ENTER I
NVOICE DATA":LOCATE40,4:PRINT"2
-> SORT DATA":LOCATE15,6:PRINT"3
 -> PRINT OUT INVOICE":LOCATE40,
6:PRINT"4 -> SAVE INVOICE FILE":
LOCATE15,8:PRINT"5 -> LOAD INVOI
CE FILE":LOCATE40,8:PRINT"6 -> R
EVIEW DATA"
80 LOCATE15,10:PRINT"7 -> DISK D
IRECTORY":LOCATE40,10:PRINT"8 ->
 ENTER PRINTER CODES":LOCATE15,1
2:PRINT"9 -> DELETE A FILE":LOCA
TE39,12:PRINT"10 -> LOAD OLD ADD
RESS":LOCATE14,14:PRINT"11 -> EN
D PROGRAM":LOCATE39,14:PRINT"12
-> RESTART PROGRAM"
90 LOCATE30,16:PRINT"13 ->  DEFA
ULT DRIVE = ";DR
100 LOCATE22,20:PRINT"WHAT IS YO
UR CHOICE":LOCATE46,20:INPUT" <
1 - 13 > ";M
110 IF M<1 OR M>13 THEN60
120 ON M GOTO130,330,440,590,800
,1020,1170,1430,1200,1270,1590,1
400,1410
130 '*** INPUT DATA ***
140 GOSUB400:GOTO150
150 FORI=T+1 TO 150:CLS:LOCATE25
,4:PRINT"ENTER ITEM  ";:LINE INP
UTX$:PL$(1,I)=X$
160 LOCATE25,6:PRINT"QUANTITY:
 ";:LINEINPUT X$:PL$(2,I)=X$:LOC
ATE25,8:PRINT"COST/ITEM:  ";:LIN
EINPUT X$:PL$(3,I)=X$
170 TC(X)=(VAL(PL$(2,I))*VAL(PL$
(3,I)))
180 LOCATE25,10:PRINT"TOTAL PRIC
E: ";:PRINTUSING"**$####.##";VAL
(PL$(2,I))*VAL(PL$(3,I))
190 GT=GT+TC(X):LOCATE25,12:PRIN
T"GRAND TOTAL: ";:PRINTUSING"**$
#####.##";GT
200 T=T+1:LOCATE25,14:PRINT"ADD
MORE TO THE LIST Y/N"
210 NT=GT
220 K$=INKEY$:IFK$=""THEN 220
230 IF K$="N" OR K$="n" THEN250
ELSE NEXT I
240 '*** DISCOUNT ***
250 CLS:LOCATE 20,4:PRINT"Do you
 want to give a discount Y/N"
260 K$=INKEY$:IFK$=""THEN260
270 IF K$="Y" OR K$="y" THEN280
ELSE70
280 LOCATE25,6:PRINT"How much  d
iscount ";:LINEINPUT D$
290 D=100/VAL(D$):D=NT/D
300 LOCATE24,10:PRINT"Discount @
 ";D$;"% = ";:PRINTUSING"**$####
.##";D
310 NT=NT-D
320 LOCATE20,22:PRINT"Press <ENT
ER> to continue";:INPUTEN$:GOTO6
0
330 '*** SORT DATA ***
340 CLS:IF T=0THEN 70ELSE PRINTT
AB(10)"SORT MODE":PRINT:PRINT:PR
INT"NOW SORTING FILE PLEASE WAIT
":PRINT:PRINT"YOU'VE NO OPTION A
NYWAY YOU'LL HAVE TO  WAIT TILL
I'VE FINISHED THE SORT!!"
350 ZZ=0
360 FOR I=1 TOT-1:IFPL$(1,I)<=PL
$(1,I+1)THEN 380
370 FOR J=1 TO 3:S$=PL$(J,I):PL$
(J,I)=PL$(J,I+1):PL$(J,I+1)=S$:Z
Z=1:NEXT J
380 NEXT I
390 IF ZZ=1 THEN 350 ELSE GOTO 6
0
400 '**** CLIENTS NAME ADDRESS *
***
410 CLS:LOCATE25,8:PRINT"ENTER T
ODAYS DATE ";:LINEINPUT DD$
420 LOCATE25,10:INPUT"INVOICE NU
MBER";IN
430 LOCATE25,12:INPUT"Client/Cus
tomers Name";CN$:LOCATE25,14:INP
UT"Street Address";AD$:LOCATE25,
16:INPUT"Post Code";PC$:RETURN
440 '*** PRINTER ROUTINE *** ENT
ER YOUR INVOICE HEADING IN NEXT
TWO LINES
450 PRINT#-2,TAB(54)"R & M Kenny
":PRINT#-2,TAB(54)"Coffs Harbour
":PRINT#-2,TAB(54)"Painters & De
coratore":PRINT#-2,TAB(54)"Phone
 066-51-2205":PRINT#-2
460 PRINT#-2,TAB(54)"Only A1 mat
erials used":PRINT#-2,TAB(5)DD$;
:PRINT#-2,TAB(25)"Invoice Number
 "IN;TAB(54)"Satisfaction Guaran
```

```
teed":PRINT#-2:PRINT#-2
470 PRINT#-2,STRING$(80,95):PRIN
T#-2:PRINT#-2
480 PRINT#-2,TAB(20)CN$:PRINT#-2
,TAB(20)AD$:PRINT#-2,TAB(20)PC$:
PRINT#-2:PRINT#-2
490 PRINT#-2,STRING$(80,95):PRIN
T#-2:PRINT#-2
500 PRINT#-2,TAB(2)"Item"TAB(28)
"Quantity";TAB(54)"Cost/Item"TAB
(65)"TOTAL COST":PRINT#-2
510 FORI=1 TO T:PRINT#-2,TAB(2)P
L$(1,I)TAB(28)PL$(2,I)TAB(54);:P
RINT#-2,USING"**$###.##";VAL(PL$
(3,I));:PRINT#-2,TAB(65);
520 PRINT#-2,USING"**$####.##";V
AL(PL$(2,I))*VAL(PL$(3,I)):NEXTI
:PRINT#-2
530 PRINT#-2,TAB(53)"GRAND TOTAL
 ";:PRINT#-2,USING"**$####.##";G
T:PRINT#-2
540 PRINT#-2,TAB(49)"Discount @
";D$;"%  ";:PRINT#-2,USING"**$##
##.##";D:PRINT#-2
550 PRINT#-2,TAB(53)"Nett Total
";:PRINT#-2,USING"**$#####.##";N
T:PRINT#-2
560 CLS:LOCATE25,12:PRINT"Anothe
r copy? Y/N"
570 K$=INKEY$:IF K$=""THEN570
580 IF K$="Y"OR K$="y"THEN450 EL
SE 60
590 '*** SAVE DATA ***
600 CLS:LOCATE20,8:PRINT" INSERT
 YOUR DATA DISK NOW!!":FOR Z=1 T
O800:NEXT
610 CLS:LOCATE25,8:PRINT"Invoice
 File Name to Save: ";:LINEINPUT
 FF$:IF FF$="Q"THEN GOTO60
620 DA$=FF$:CZ$=DA$
630 FF$=FF$+".ADI":DA$=DA$+".INV
":CZ$=CZ$+".DAT"
640 CLS:LOCATE25,12:PRINT"** SAV
ING FILE **"
650 OPEN "O",#1,FF$
660 WRITE#1,DD$
670 WRITE#1,IN
680 WRITE#1,CN$:WRITE#1,AD$
690 WRITE#1,PC$
700 CLOSE#1:GOTO710
710 B=1
720 OPEN"O",#1,DA$:OPEN"O",#2, C
Z$
730 PRINT#1,T
740 FOR I=1 TO T:FOR J=1 TO 3:PR
INT#1,PL$(J,I):NEXT J:NEXT I
750 WRITE#2,GT
760 WRITE#2,D$
770 WRITE#2,D
780 WRITE#2,NT
790 CLOSE#1,#2:GOTO60
800 '**LOAD FILE **
810 CLS:LOCATE20,8:PRINT"Insert
your data disk now!!":FOR Z=1 TO
 800:NEXT
820 CLS:LOCATE20,12:PRINT"File n
ame to load ";:INPUTX$:DA$=X$:CZ
$=X$:IF X$="Q"THEN60 ELSE X$=X$+
".ADI":DA$=DA$+".INV":CZ$=CZ$+".
DAT":OPEN"I",#1,X$':OPEN"I",#2,D
A$:OPEN"I",#3,CZ$
830 IF EOF(1)=-1 THEN860
840 INPUT#1,DD$,IN$,CN$,AD$,PC$
850 GOTO830
860 IN=VAL(IN$)
870 CLOSE#1
880 B=1
890 OPEN"I",#1,DA$:OPEN"I",#2,CZ
$
900 INPUT#1,T
910 IF EOF(1)=-1 THEN960
920 FOR I=1TO 3:LINEINPUT#1,PL$(
I,B):NEXT I
930 B=B+1
940 GOTO 910
950 IF EOF(1) =-1 THEN 980
960 INPUT#2,A$,B$,C$,E$
970 GOTO 950
980 GT=VAL(A$):D$=B$:D=VAL(C$):N
T=VAL(E$)
990 CLOSE#1,#2:CLS
1000 K$=INKEY$:IF K$=""THEN1000
1010 IF K$="Y" OR K$="y"THEN LOC
ATE25,14:PRINT "Prepare Printer
and press ENTER":INPUTEN$:GOTO45
0 ELSE60
1020 CLS:LOCATE25,2:PRINT"Client
s Name and Address":LOCATE20,6:P
RINTDD$:LOCATE30,6:PRINT"Invoice
 # ";IN:LOCATE20,8:PRINTCN$:LOCA
TE20,10:PRINTAD$:LOCATE20,12:PRI
NTPC$
1030 LOCATE25,22:PRINT"Press Ent
er to Continue";:INPUTEN$
1040 CLS:LOCATE12,8:PRINT"Do you
 wish to see all of the file or
just the totals?":LOCATE30,10:PR
INT"<A>ll or <T>otals"
1050 K$=INKEY$:IF K$=""THEN1050
1060 IF K$="A"OR K$="a"THEN1070
ELSE IF K$="T"OR K$="t"THEN1130
1070 CLS:FOR I=1 TO T
1080 LOCATE25,4:PRINT"Item -----
------ ";PL$(1,I):LOCATE25,6:PRI
NT"Quantity ---------"PL$(2,I)
1090 LOCATE25,8:PRINT"Cost per I
tem -- ";PL$(3,I):LOCATE17,10:PR
INT"Total Cost Per Item---- ";:P
```

```
RINTUSING"**$####.##";VAL(PL$(2,
I))*VAL(PL$(3,I))
1100 IF INT(I/1)=I/1THEN LOCATE2
0,22:PRINT"Press <ENTER> to cont
inue ";:
1110 INPUTEN$
1120 NEXT I
1130 CLS:LOCATE25,12:PRINT"Grand
 Total --- ";:PRINTUSING"**$####
.##";GT
1140 LOCATE24,14:PRINT"Discount
@ ";D$;"%-- ";:PRINTUSING"**$###
#.##";D
1150 LOCATE15,16:PRINT"Grand Tot
al less Discount ";:PRINTUSING"*
*$####.##";NT
1160 LOCATE20,22:LINE INPUT"PRES
S ENTER TO RETURN TO MENU";RM$:G
OTO60
1170 CLS:DIR:PRINT" FREE = ";FRE
E(DR)
1180 LOCATE 25,22:PRINT"Press <E
NTER> to continue ";:INPUTEN$:GO
TO60
1190 '*** DELETE A FILE ***
1200 CLS:LOCATE15,12:PRINT"Are y
ou sure you want to delete a fil
e? Y/N
1210 K$=INKEY$:IF K$=""THEN1210
1220 IF K$="Y"OR K$="y"THEN1230
ELSE 60
1230 CLS:LOCATE20,12:INPUT"File
name to kill plus extention";FF$
:KILLFF$
1240 CLS:LOCATE25,12:PRINT"anoth
er one Y/N"
1250 K$=INKEY$:IFK$=""THEN1250
1260 IF K$="Y"OR K$="y"THEN1230
ELSE60
1270 '*** LOAD AN ADDRESS ***
1280 CLS:LOCATE20,12:PRINT"Inser
t your data disk now!":FORZ=1 TO
 800:NEXT:CLS:LOCATE5,12:PRINT"E
nter the name of the address fil
e to load plus extention";:INPUT
FF$
1290 OPEN"I",#1,FF$
1300 IF EOF(1)=-1 THEN1330
1310 INPUT#1,DD$,IN$,CN$,AD$,PC$
1320 GOTO1300
1330 IN=VAL(IN$)
1340 CLOSE#1
1350 CLS:LOCATE25,12:PRINT"Chang
e Date and Invoice number Y/N"
1360 K$=INKEY$:IFK$=""THEN1360
1370 IF K$="Y"OR K$="y"THEN1380
ELSE120
1380 LOCATE25,14:INPUT"Enter new
 date";DD$:LOCATE25,16:INPUT"Ent
er new invoice #";IN
1390 GOTO60
1400 EXEC&HAD26:GOTO60
1410 CLS:LOCATE25,12:INPUT"Enter
 Drive Number";DR:DRIVEDR:GOTO60
1420 POKE&H71,0:EXEC&H8027
1430 CLS:LOCATE20,2:PRINT"Setup
printer codes? <Y - N>"
1440 CS$=INKEY$:IF CS$=""THEN144
0
1450 IF(CS$<>"Y")AND(CS$<>"N")TH
ENPRINT"":GOTO1430
1460 CLS:IFCS$="N"THEN 60
1470 GOSUB1540
1480 LOCATE8,10:PRINT"Enter each
 printer codes you wish to use:
IE 27 ENTER 29 ENTER"+CHR$(13)+"
        Final Entry must be -2";
1490 LOCATE25,16:PRINT""
1500 LOCATE 25,12:PRINT"":INPUTC
S:IFCS=-2 THEN1580
1510 IF(CS<0)OR(CS>255)THEN LOCA
TE 20,20:PRINT"THE CODE YOU HAVE
 ENTER IS OUT OF RANGE":FORI=1TO
1000:GOTO1490
1520 CQ$=CHR$(CS):GOSUB1560
1530 GOTO1490
1540 LOCATE23,4:PRINT"PLACE PRIN
TER ON LINE NOW"
1550 LOCATE20,20:PRINT"
    "
1560 PRINT#-2,CQ$;
1570 RETURN
1580 CLS:GOTO60
1590 CLS:LOCATE20,12:PRINT"Are y
ou sure you want to end the prog
ram Y/N
1600 K$=INKEY$:IF K$=""THEN1600
1610 IF K$="Y"OR K$="y" THEN1620
 ELSE60
1620 POKE&H71,0:EXEC&HA027
          END
```



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WANTED URGENTLY

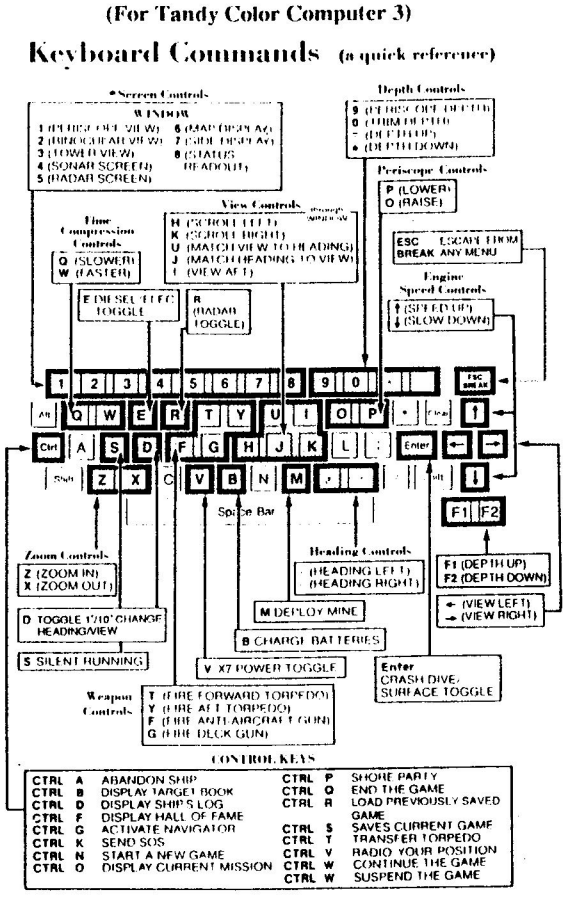
Programmes, Articles, Hints and tips for COCO-LINK Magazine.

THE MASTERS COLLECTION™

By EPYX

SUB BATTLE SIMULATOR™

I must start this review by explaining that I do not normally play games on my Coco. I rarely have the time and I have never really found any games which have ever interested me for more than half an hour or so. I have some games which I acquired some time ago and have never had them out of the boxes. Being stuck in on my own one windy, rainy Sunday afternoon I decided to give them a go. The first off the shelf was SUB BATTLE by Epyx.

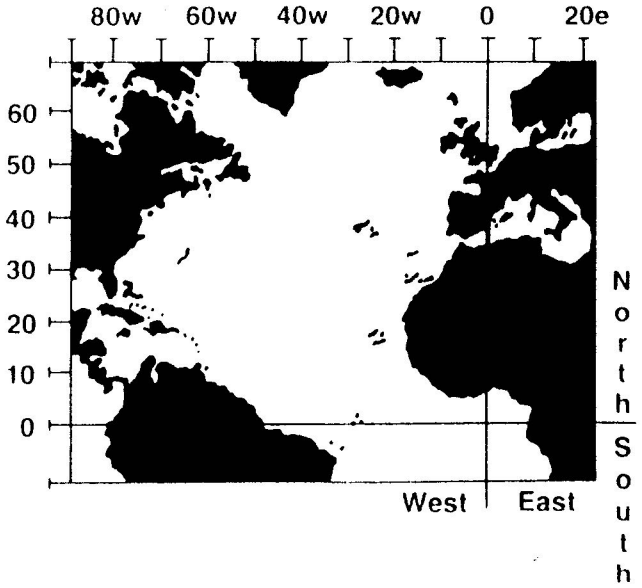


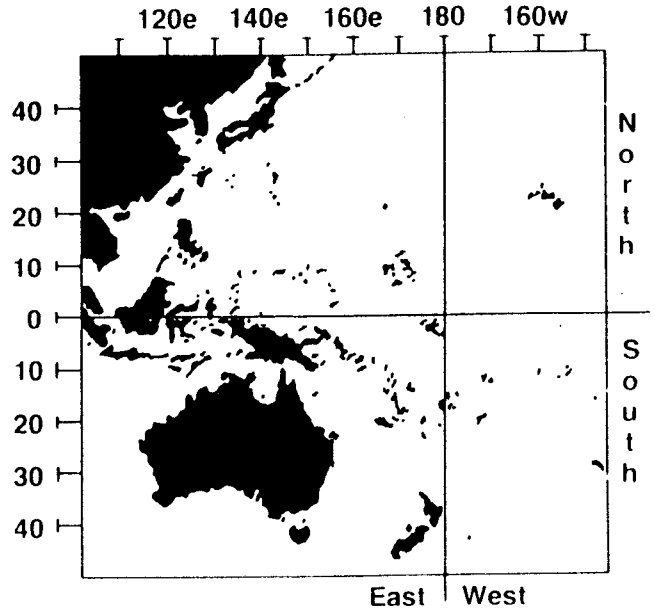
In the box was the disk, an instruction manual called the "Commanders Training Manual" and a Quick Reference Card (QRC). The disk is OS9, but not to worry, you don't need OS9 to load it. All you need is a Coco 3 with at least 128K, a disk drive and a monitor. RGB, Mono or television will do. I popped the disk in the drive and typed DOS as instructed then "Ex Sub" when instructed. A nice title screen eventuated and then I was into the game proper. At this stage I decided to read the manual.

This is a well produced 36 page booklet which deals mainly with the commands as used for Commodore 64/128, Apple and MS Dos machines. By cross-referencing the CoCo 3 quick reference card this was easy to understand. As shown in fig. 1 the quick reference card covers a wide range of keyboard options. This card is invaluable, believe me.

The manual explains how to go through the motions of startup and running through a target practice game to get the feel of things. This took me a few tries before I felt I even had a chance of survival. After that it was into a single mission. Now, I'm afraid, I am hooked.

To try and give the scope of this game is difficult: Firstly, the setting is WW2. You can either be a German Submarine Commander in the Atlantic or an American Submariner in the Pacific. Fig. 2 and 3 show the two areas of combat.





In each of these areas you can choose one of four different levels of play (I am still a novice on Level 1). Each area covers a number of years. The degree of difficulty for each level is shown in Fig. 4. (This is the reverse of QRC).

Level of Play (degree of difficulty)

There are four levels available to allow for an increasing degree of difficulty.

You'll note that these are in ascending order of difficulty where certain advantages are removed in higher levels, while certain disadvantages are added.

Description	1	2	3	4	
enemy convoys shown on maps	✓				Functions Enabled by Level
Torpedo range maximized	✓				
Damage to sub in single steps	✓				
periscope toggles up/down	✓	✓			
enemy ships shown on maps	✓	✓			
Airplanes shown on maps	✓	✓			
Torpedo shown on maps	✓	✓			
Shore Party destination on maps	✓	✓	✓	✓	
Weather Effects active		✓	✓	✓	
enhanced ability of Airplanes		✓	✓	✓	
Airplanes drop Depth Charges		✓	✓	✓	
Sea State Effects active			✓	✓	
periscope increments in feet			✓	✓	
reload Deck Gun & Torpedos (secs.)	15	17	19	21	Misc
Torpedo range comparison	2x	1.6x	1.3x	1x	
'Days on Station' accuracy	±2°	±2°	±1°	±1°	
Crash Dive time required	25	50	75	100	% of NORMAL
bombing accuracy of Airplanes	25	50	75	100	
Dud Munitions	25	50	75	100	
degree of Damage sustained	25	50	75	100	
Damage repair times	30	60	90	100	
enemy Ramming intensity	70	80	90	100	
overall Ability of Enemy	70	80	90	100	

Part #1480200-62

On picking the level, year and area of combat, you receive your orders and venture into the fray. The screen carries all the information you require in the way of running your submarine. Fig. 5, the View Display Window, can be configured various ways depending on the circumstances you find yourself in, and believe me you will find yourself in some tricky situations.

D1 Periscope View
D2 Binocular View
D3 Tower View
D4 Sonar Screen
D5 Radar Screen
D6 Map Display
D7 Side Display
D8 Status Readout

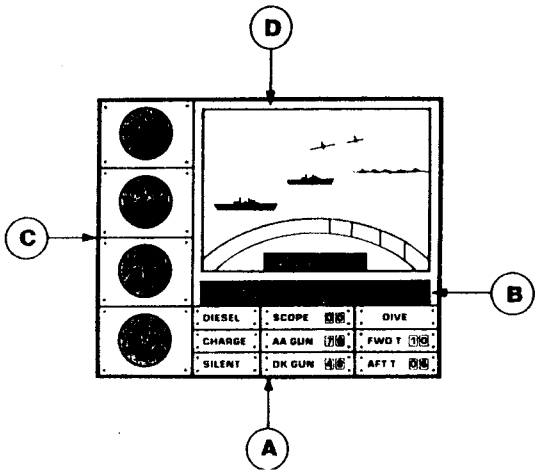


Fig. 6 shows an encapsulation of these different views. You can shift to a satellite type view from the sky. This is a most important feature. You can view the maps in 7, 35, 175, 1000, 2000 mile areas. Another very important screen is the Status Readout Screen. This tells you the condition of your equipment, fuel, supplies, etc. It also gives you the date and time and your exact position. This is very necessary sometimes when you have to rendezvous at a particular spot at a particular time.

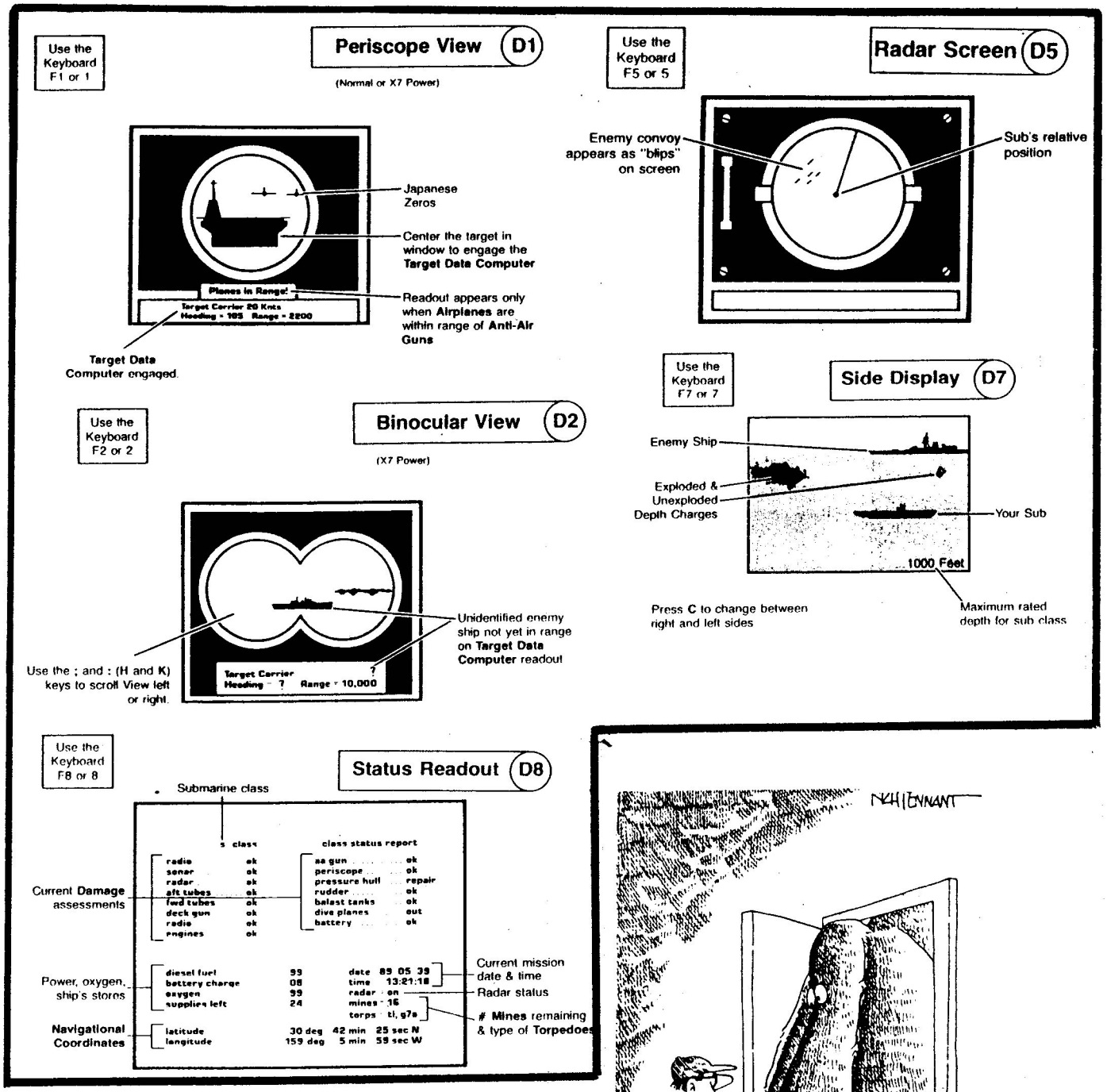
The most important key, especially for beginners and slow thinkers, is CTR W. This pauses the game and gives you time to think out your next move or check the QRC to find out what key to press.

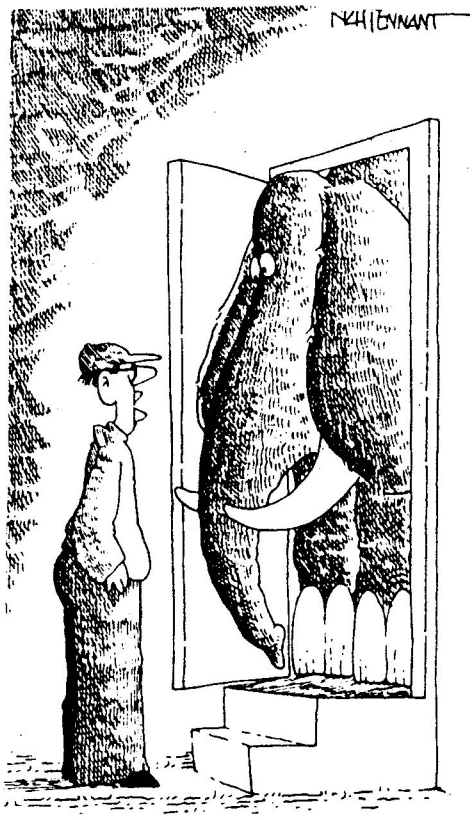
I can't begin to tell you how to go about playing your game. You have to work it out for yourself. You will be attacked by planes, destroyers, battleships and an assortment of other situations. I will add only two small tips:

1. Be sure you know what you are doing before you take on a battleship.

2. If you come across a lone transport or convoy without arms, surface and use your deck guns.

(The back of the manual has silhouettes of all the enemies you will come across and tells you what arms they carry).





A mission or a complete Wartime Command can take up many hours of your time, but don't worry, you can save your game to disk and continue after you have grabbed a couple of hours sleep.

In conclusion I can only say that I have found this game a revelation and if there are more out there as interesting and thought provoking, I'll be looking into them.

This game is not new and I do not know whether it is still available, but if you see a copy .... grab it. For pure enjoyment spent over many hours it receives my highest commendation.

Now what are these other games on the shelf? .....

E N D

"IS THIS WHERE THE PEANUT USERS GROUP MEETS?"

8 10 12 14 Sequences

By Tim Hartnell

The first three numbers of a sequence are 2,4 and 6. What are the next four numbers? It is not hard to work out that they are 8,10,12 and 14. The same goes for the sequence which begins 13,12,11,10. The next three are probably 9,8 and 7.
But some sequences are not so obvious. In a sequence which begins 1,2,2 and 3, what are the next three numbers?

A sequence is a set of numbers given in a specific order, in which each number is related to its position in the sequence by a formula.
The formula for the first sequence in this article (2,4,6 and so on) is simple. If n is the position in the sequence (so for the first position n equals 1; for the second n equals 2 and so on) the formula is simply 2n.
You can use the formula to find out any number in the sequence. The nineteenth number in the sequence is 38, as 2n where n=19 is 38.
The formula for the 13,12,11,10 sequence is 14-n, so the 25th term in the sequence is -11.

Number sequences also crop up in nature. the sequence mentioned above, which begins 1,2,2,3 continues 5,8,13,21,34 and 55.
This is the Fibonacci sequence which is named after Leonardo of Pisa (1175 - 1230). This sequence can be found in the way some branches or leaves grow on plants and in the way populations of some animals increase.

It is claimed that Leonardo evolved the sequence in 1202 while studying the breeding patterns of rabbits. But the first written mention of the relationship between rabbits and the sequence does not appear until 400 years after Leonardo, and it was not until 1868 that it was published in a mathematical journal,

Try and work out how to determine numbers on the Fibonacci sequence (the answer is given at the end of this article).

The programme listed with this article will generate as many sequences for you to solve as you wish.
When you run it you'll be asked to select a "Level of Difficulty" (1,2 or 3, where 1 is the simplest). Then the programme will print up the first three numbers in the sequence, with a dash (-) for the next four numbers.
Type in any number which you think is in the sequence, and the dash will be replaced by that number if it is correct. If you need help, enter a question mark instead of a number, and the next number in the sequence will occur. If, instead of a number or a question mark, you type in "f", the formula for the sequence will be given.

While there is some value in working out the missing numbers in the sequence simply by inspecting them, it is more worthwhile to try and determine the actual formula which has been used to generate the sequence.

There are six basic formulae the programme can choose from in building the sequence for you to solve. Once you are able to solve the kinds of sequences generated by the programme, you can modify lines 470 to 520 to introduce different formulae.

(Each number in the Fibonacci series, after the second, is simply the sum of the preceding two numbers).

Once you get the programme up and running, you can try the following alternatives for line 160:

```
160 K=SIN(X*Y)
160 K=LOG(ABS(X*Y+.510001))15
```

```
160 K=COS(Y/ABS(X)+.5))
160 K=SIN(X*EXP(-(Y/7.8)))
160 K=COS(X*Y/SQR(XL2+YL2))
160 K=COS(X)+SIN(X*Y)
160 K=SQR((X+Y)L2)/6
```

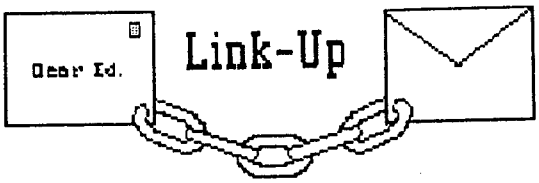
You may need to fiddle with the figures a bit when trying out your own designs, in order to get a result which looks good on the page.
If the first printout looks very plain - such as a solid mass without a pattern, or line after line of the same symbol - try multyplying the whole expression, or one element of it by a number such as 6, or divide the whole expression or one element of it by a similar number.

Once you get the picture on the screen or the paper you will find it best to look at it from a metre or so away. This will ensure you can see the pattern as a whole, and not get trapped in the separate elements which make it up.

END

```
10 ' COMPLETE THE SEQUENCE
11 ' BY TIM HARTNELL
12 ' ***************
13 ' ADAPTED FOR COCO
14 ' BY GARRY HOLDER
15 ' ****************
20 DIM A(7),B(7)
40 A=RND(-TIMER)
50 ' ***************************
60 GOSUB360:' FORM SEQUENCE
70 CLS
80 GOSUB 290
90 PRINT"ENTER KEY NUMBER WHICH
YOU THINK"
100 INPUT"IS PART OF THE SEQUENC
E";N$
110 IF N$="?" THEN GOSUB 570:N=.
001:GOTO140
120 IF N$="f" OR N$="F" THEN PRI
NT:PRINT A$:N=.001:GOTO140
130 N=VAL(N$)
140 CT=0:FOR J=1TO7
150 IF A(J)=N THEN B(J)=N
160 IF A(J)=B(J) THEN CT=CT+1
170 NEXT J
180 IF CT=7 THEN210:' SEQUENCE C
.OMPLETE
190 GOTO 80
200 ' ************************
210 ' SEQUENCE COMPLETE
220 PRINT
230 IF N<> .001 THEN PRINT"WELL
DONE! YOU HAVE COMPLETED IT!":PR
INT
240 GOSUB 310
250 PRINT"THE FORMULA WAS ";A$;"
 WHERE n"
260 PRINT"IS THE POSITION IN THE
 SEQUENCE"
270 PRINT:PRINT" ANOTHER ONE Y/N
"
273 I$=INKEY$:IFI$="" THEN 273
275 IF I$="Y" THEN 40 ELSE IFI$=
"N" THEN END
280 ' ************************
290 'PRINT OUT SEQUENCE
300 PRINT:PRINT"THIS IS THE SEQU
ENCE SO FAR:"
310 FOR J=1TO7
320 IF B(J)=A(J) THEN PRINT A(J)
;"";
330 IF B(J)=.01 THEN PRINT" -  "
;
340 NEXT J:PRINT:PRINT:RETURN
350 ' ************************
360 ' FORM SEQUENCE
370 CLS
380 PRINT:PRINT"DO YOU WANT 1- A
N EASY SEQUENCE?"
390 PRINT"            2 - A MODER
ATE ONE?"
400 PRINT "            3 - A DIFF
ICULT ONE?"
410 INPUT K:IF K<1 OR K>3 THEN41
0
420 X=K*INT((RND(1000)/1000)*4):
X$=MID$(STR$(X),1,2)
430 Y=K*INT((RND(1000)/1000)*4):
Y$=MID$(STR$(Y),1,2)
440 IF X*Y=0 AND K=3 THEN420
450 E =INT((RND(1000)/1000)*6)
460 FOR J=1TO7
470 IF E=0 THEN A(J)=X*J+Y:A$=X$
+"n+"+Y$
480 IF E=1 THEN A(J)=X*J-Y:A$=X$
+"n-"+Y$
490 IF E=2 THEN A(J)=J*(J+X):A$=
"n(n+"+X$+")"
500 IF E=3 THEN A(J)=X*J*J:A$=X$
+"(n^2)"
510 IF E=4 THEN A(J)=J*(J+X)+Y:A
$="n(n+"+X$+")+"+Y$
520 IF E=5 THEN A(J)=J*(J-X)-Y:A
$="n(n-"+X$+")-"+Y$
530 B(J)=A(J):NEXT J
540 FOR J=4TO7:B(J)=.01:NEXT J
550 RETURN
560 ' ************************
**
570 ' GIVE NEXT NUMBER IN SEQUEN
CE
580 J=1
590 IF B(J)<>A(J) THEN B(J)=A(J)
:GOTO610
600 IF J<7 THEN J=J+1:GOTO590
610 RETURN
```

END



Continued from page 5

PMODE screens (and anyway the LP VIII would only do PMODE screens). I did one myself some years ago. I feel a better approach for a CoCo3 is to do a transfer from the PMODE screen to HSCREEN and then dump it from there, I did my screen transfer program specifically for this purpose. The transfer program was in COCO-LINK magazine a while back. You can then dump it with a HSCREEN dump.

Most older ROM packs can be transferred to disk and will work OK. Some require special POKES as well to overcome simple copy protections that crash for the CoCo3. Some cannot be transferred because they use some memory mapping in the ROM PACK as well. I have no experience with these.
The transfer to disk procedure for the CoCo2 has been described in old magazines. I did a variation a few years back to adapt this to work with CoCo3 as well. That was in an Australia CoCo and set up the program on disk to automatically adjust to suit both CoCo2 and CoCo3 depending on which one it was running on.
I can't recall when these particular items appeared in the magazines.

George McLintock. Qld.

****

Dear Ed,
Just a short note to thank you very much. I wrote to you and asked about Ron Munro, who wrote a letter in last issue of COCO-LINK. You contacted him and gave him my phone number. Well, last night Ron rang me. We talked for hours on the phone and had a great time. He is now going to visit me and we can talk computers together.
I suffer from agraphobia and don't drive far from home. Ron is going to pick me up next Wednesday night and take me to to Penrith Coco Club. So, as you can see, you've really acheived something. I'm really excited. COCO-LINK is really proving it's name - linking Coco users throughout Australia in more ways than one.
Also, I read a letter from the Penrith Coco Users Club in COCO-LINK and I have contacted Debbie from there. So now, I will be able to put faces to names. Thanks very much once again, mate, a job well done.

Graham Elphick, St. Marys, NSW

Dear Graham,
It seems to be the month of praise for COCO-LINK. As I answered Mrs. Cooper above, we love it.
Thank you for allowing us to print your letter. It serves to remind us all that the computer can be more than just a tool to do mathematical calculations and write letters (or magazines for that part).
The Coco community will survive through the interaction between users and for no other reason.
I am glad we seem to be doing our little bit.

****

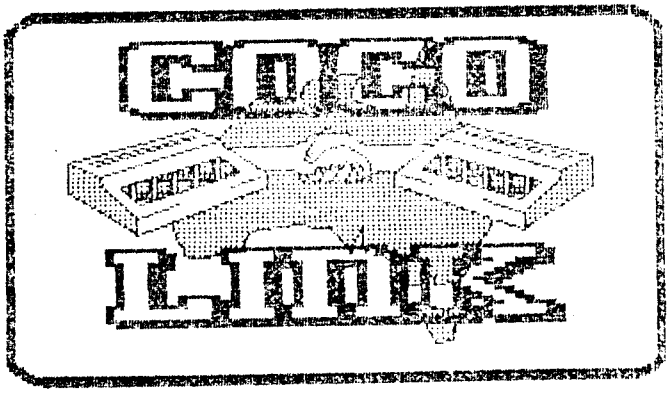
****

Better Basic

Continued from page 15

```
0 'FLXIPCPY' COPYRIGHT (C) 1991
  KEIRAN KENNY
10 PCLEAR8
20 PMODE4,1:COLOR0,5:PCLS:SCREEN
1,1
30 LINE(20,20)-(235,43),PSET,B:D
RAW"BM125,38R3NR3U8NG2"
40 CIRCLE(128,71),22:DRAW"BM125,
75NR6U2ER4EU2HL4GD"
50 DRAW"BM10,140E40R200G40L200BM
125,125BUFR4EU2HNL3EU2HL4G"
60 CIRCLE(128,167),123,,.15:DRAW
"BM126,171BR5U8G5R6"
70 FORX=1TO4:PCOPYX TOX+4:NEXT
80 K$=INKEY$:IFK$<"1"ORK$>"4"THE
N80ELSEX=VAL(K$)
90 L$=INKEY$:IFL$<"1"ORL$>"4"THE
N90ELSEY=VAL(L$)
100 PCOPYX+4 TOY
110 GOTO80
```

End



Coco-Link Public Domain Disks

$5.00 each.

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Australian Geography
Australian Explorers
Fractutor
Decimal
Spellit
Times Table

DISK 002 EDUCATION #2

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Cocohome
Coindemo
Formula
Matchem
Math
Mathsmt
Memory
NumFun
Puzzle
Trigshow
Word

DISK 011 GAME

CoCo Trivia
Trivial Pursuit game.
(Takes up 2 sides of disk)

DISK 012 GAME

Computer Tote
Complete with races and tote betting.
Marvelous for club fund raising!

DISK 013 13 GAMES

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Bobo
Centrit
Germ
Max
Reversi
Yacco
25 Square
Build
Cypher
Life
Maze
Tanks

DISK 014 11 GAMES

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About
Memory
Patience
Puzzle
Wigwam
3Stages
King Tut
Nausea
Pong
Slither

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3PRNTDOC
3QKMEN80
CATLOGUE
DSKDET
HASH
MULTUTIL
QKMEN32
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WATERFALL
WORLDMAP

DISK 042 COCOMAX GRAPHICS

2 sides full of Cocomax pictures.

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