Vol 3 Issue 5 Sep/Oct 95

COCO - LINK

THE COLOUR COMPUTER MAGAZINE

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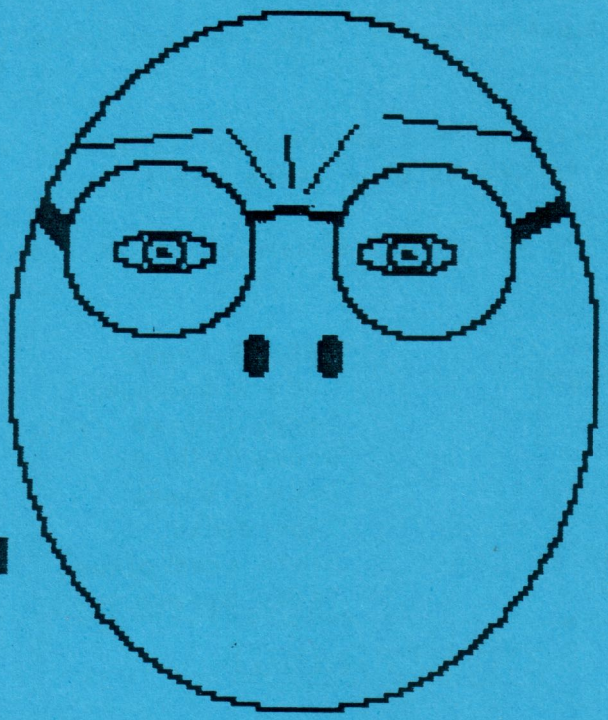

REASON FOLDING

FOR

THIS ISSUE

SALE ITEMS

REMCOMS has folded as a company however this does not mean that you need to miss out completely.

Ros and I have been given until the end of the year to either sell all our current stock or we will be forced to give it to charity.

Therfore all our stock is being sold until December 95 at ridiculously low prices, eg;

CoCo 1 & 2 Tapes	$2
CoCo 1 & 2 Rompaks	$5.00
Tandy J/stcks (set of 2)	$5
Books CoCo 1 & 2	$2
CoCo 1 & 2 Disks	$5.00
CoCo 3 (OS-9 disks)	$10
Bare drives (40/80)	$10
RSDOS controllers	$40

CoCo 3 Tapes	$2.50
CoCo 3 Rompaks	$10
Tandy Deluxe J/Stcks	$10
Books CoCo 3	$2.50
CoCo 3 Disks	$10
Tape decks	$10
Disto controllers	$50
Tandy Speech paks	$10

The above is just an example of what we currently hold and must sell as stated. If there is a particular programme or item that you are after then drop us a line or give us a call and we will help out as best we can.

Write to:
Fred & Ros Remin
P.O. Box 787
THURINGOWA CENTRAL QLD 4817

Or Phone:
(077) 734 884

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The time has come!!!!!

Remember this heading in the last issue of CoCo-Link? I can tell you all that the heading did prevoke a number of responses from some cocoists, the two main ones being;

(1) Are you trying to scare us, are you really fairdinkum about folding? and

(2) Yes I can understand how you feel, I will send you some material for the next magazine.

Looking at the size of this magazine you can now appreciate exactly why it is folding. This issue contains only that which we received plus this article, as you can see not a very good effort by any stretch of the imagination.

Some of you may be wondering about where to go for support once this magazine and REMCOMS has folded. Ros and I will still be available for support to those who need it on a one on one basis, and we will still be able to either get the software or hardware for you or at least let you know where to get it from.

However this issue is the second last one to be produced by Ros and myself, the next issue, Nov/Dec will be our last one. It is obvious to all that those out there who have the knowledge on the CoCo are simply either to lazy or just not prepared to assist others.

THIS DOES NOT APPLY TO ALL, there are some very knowledgable people in the CoCo community who have been bending over backwards to help not only this magazine but novice cocoists as well, to all of you please accept my most sincere thanks.

THERE IS STILL A CHANCE!!
Remember when the Softgold and CoCo magazines folded, well Robbie took over and kept us informed for a further 4 years, then Ros and I took over and kept you all informed for a another 3 years, can it happen again?

Is there someone out there who is prepared to do the same again? Obviously someone with a bit more time than what I have these days and someone who can put up with the countless frustrations that go along with producing a magazine of this sort. If there is, then give me a call or drop me a line, I will give you the good oil on what is required and how to get the job done. I for one would support as much as I can if anyone were to take on the task, for example I could continue my BASIC column for you, it would be a little easier with only one task to do rather than a hundred.

In any case there you have it for this the second last issue of CoCo-Link, I thank all those that rang us up after the last issue and expressed their concern and offered help. I am still waiting for that help and I find it very difficult to print in a magazine a phone call.

Up to you folks!!

****
* SALE ITEMS *
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As advertised in the last magazine we still have a vast amount of software, hardware and publications for sale.

I have already FIVEN AWAY all my back issues of the magazines CoC0, Softgold, Rainbow (both US and Aust) and a number of others that I had. These were given to a local school for either reading or cutting up for the younger kids.

We do still have the rest however and the prices will remain the same until we either sell the lot or until the end of the year. If we do not sell it then it is all going to a charitable organisation who might be able to use4e it.

So get in quick if you want a copy of any programmes that were in the past ridiculously priced under $100 and are now going for under $20. The only exceptions will be those programmes that need to be obtained from over seas.

You have less than three months left.

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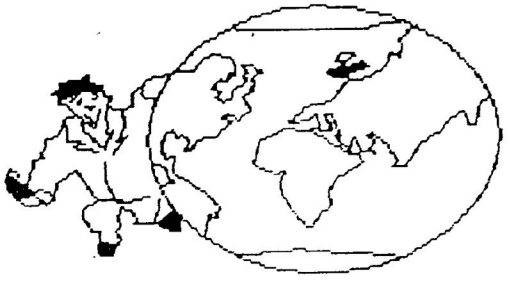
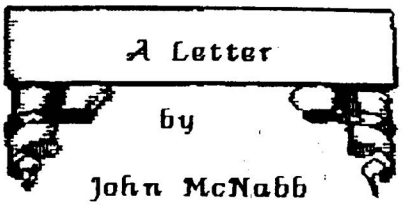




Dear Fred,

COP THIS- For the MAG

Well the time has come and I have put pen to paper.(at last did you say)

Some time ago I wrote an artical about putting 512 K in a COCO but due to a mixup Fred got the credit and not me. But what really pissed me off was there was no feed-back at all. So it makes me think just what is it that YOU the readers out there really want from this Magazine because if there is no imput then there is no output.

This is the only Magazine in Australia that is Devoted to theTandy made computer that we know as the COCO and just think that a few years ago there was about 4mags as well as the papers that some user groups printed.

It is with embarassement that it looks that you are a lazy lot and it drags me down too. As Fred has said allready this Mag may end soon an I will miss it. SO PLEASE GET YOUR PENS TO PAPER AND SEND IT IN.

There must be some questions you would like answered,or tell us something that you have discovered. It may not be a big deal to you but it will be new to someone else because that is what this Mag is about. It is our communication tunnel between the users of the world. And this TUNNEL is getting smaller and smaller and smaller.

Some time ago I asked for help on what is the pokes to change the Baud rates on the MC10 computer, but I got no reply at all. Does this mean that nobody out there uses a MC10 anymore? Well there is no need to worry because I found out and here it is.The Default is;

600 baud = poke16932,118
1200 baud type poke 16932,56
2400 baud type poke 16932,26 or 27 and the last one is,
poke 16932,244 will give you 300 baud.

This now brings me to the next thing that pisses me off and that is the amount of software that is still available and there is not much new anything at all being made for the COCO. And do you know why, well it is because there is still a lot of users that will not pay for programs and want copies for free and that is Piracy and that means that the companies that make the software do not get any money and stop making the vital things we need to keep our COCO's going. When I hear people saying "There is nothing made for COCO's anymore" I then ask how much money did you spend last year and where did you look because there still programs available and the last lot of games I saw that came out 2 years ago were fantastic. The colour and sound was very good, the graphics and speed that they ran at was as good as anything I have seen on a 286 or 386 using CGA or EGA.

When you stop and think these PC's have more memory and run faster (and cost a lot more to buy) then you all should keep the COCO ALIVE because we are doing things that Tandy never dreamed of. Did you know for about $60 or $70 you can connect up a 40 meg MFM harddrive. Did I hear someone say you got to buy the software to make it work, so what, that is the trouble with you all. You will go into a PC shop and put down your $2,500 for a IBM and take some boxes home and plug them together then tell people that you are a computer opperator. This is why the PC market is getting so big and I have never heard anyone say that they have got the maximum possible performance out of the COCO.

Another thing that I hear is a lot of users still only have a tape recorder to load and save your programs. Please think of changing to a disk drive because once you use a disk drive you will never want to go back to tapes. The bit that will cost the most is the disk controller, second hand about $40 or $60 and a new one from Disto will cost about $120 or so but it is worth it. Then a second hand disk drive will cost from $10 each, yes $10 from a PC shop or a computer swap meet that are becoming very popular around Australia. All you have to look for is a 360K-40 track drive and a power supply that gives 12 V and 5 V (dc) at a total of 1.5 amps. I am sure that Fred will help out.

Remember if you want to know something then this is what this Magazine is all about. Now when you get a disk drive and you only need one to start with and add another later when you get another $10 you can buy a program that will transfer your programs over to disk. You will find that some BASIC programs only need to be cloaded only into memory then save to disk. Now you will find out how easy it is to load a basic program, list it and make some changes and then save it. One of the things I like doing is to load a COCO 2 program and then rewrite it to run on a COCO 3 in hi-resolution (40 or 80 width screen) and maybe add some sound etc. You will be amazed just how much of a challenge this can be and when you get it going again there is a lot of satisfaction and just think about what you had to learn about the humble COCO

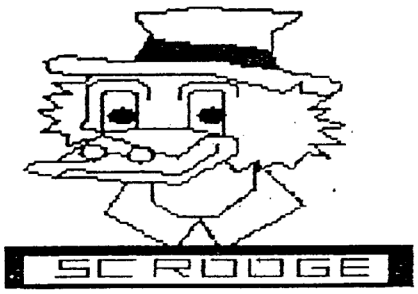
and its many uses.

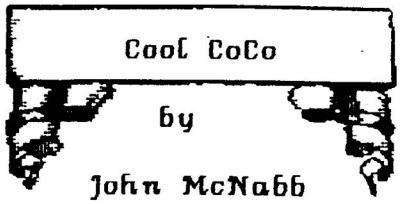
Well that is all for now and I hope that this will get some of you out there up off your bums and do something constructive to keep our COCO community together and active.

John McNabb.

John,

I thank you for your letter, and as you can see I have printed it exactly as you sent it with the exception of formatting it for the magazine. I hope your words have some effect on our community because mine obviously haven't, it seems that when I have said what you are saying here, I seem to have been branded a whinger. Irrespective of what happens, keep in touch, remember I am still more than happy to help out all cocoists on a one-on-one basis.





Dear Fred,

Cop this for the mag

Some time ago I added 2 fans and a transformer to my COCO 3 to keep it cool. It has worked very well and when I mentioned it to Fred he wanted to know how to do it and here it is.

The first thing is to get a transformer small enough to fit in the space under the keyboard with the 2 small fans and a little full wave rectifier. The transformer was hard to find but I finally got one from a company named RS Components Pty Ltd. They have outlets in the main cities in Australia and have a mailorder service. The part number for the transformer is 210-780 and the cost was about $10 + tax.

The next thing is two little 12volt fans. I got these from JAYCAR electronics in Melbourne at the great cost of $22.50 each. The fans are made by Sinwan part No-SP40201H 12 volt 0.16 A but any 12 volt dc 40 mm square fan will do. Allso you need is a terminal block with 4 slots in it, a small bridge rectifier (50volt at 1 amp), a small slide switch, 8 screws (about 25 mm long) and nuts and washers (18 off) 2 screws and nuts to hold the terminal block down some wire rated for 240 volts and some cement type glue to hold the transformer in place.

At this stage I must add that if you are not experenced enough to work with 240 volts (which can kill you if you come in contact with it) then forget the transformer and just get a 12volt DC by 500 ma power pak and plug & socket to conect it in the side of the computer.

Now comes the time to take the screws out of the bottom of the computer and do not loose them. Turn the computer over back on its feet and with care take the top off using a screwdriver. The keyboard is conected thin flat plastic tape with printed circuit tracks on it. Where it plugs into a edgeconnector carefully pull it out without scratching the tracks and then lift the keyboard out of the case. Under the keyboard in the case there are 4 sets of 6 slots, this is where the fans will go. I placed the terminal block in the center of the case with the rectifier in it so that the fans will go each side on the outer set of slots.

On the fan you will see the arrows to show the rotation and the direction that the air flow will go. I choose to draw the air in from the bottom and blow it through the computer and out the top slots at the back of the case. OK now hold the fan at the outer set of slots and with care file or drill the holes at the ends of the slots, you will not have to take much plastic out to make the fans fit.

Next cover the other slots with sticky tape to cover them and connect the wires to the dc terminals of the rectifier. On the left side of the computer about 50 mm in from the front I filed a slot where the two halves fit together to hold the slide switch and drilled 2 small holes to hold it. (you can use a lever switch if you wish but I do not like them because they stick out)

Now the tricky bit to mount the transformer. The only place it will fit is on the left hand side next to the power supply. Look for where the power cord comes in and goes into the transformer you will see a cardboard cover held down with 4 screws. Take these screws out and with care take the cover out without breaking it (2 of these screws hold the transformer in place).

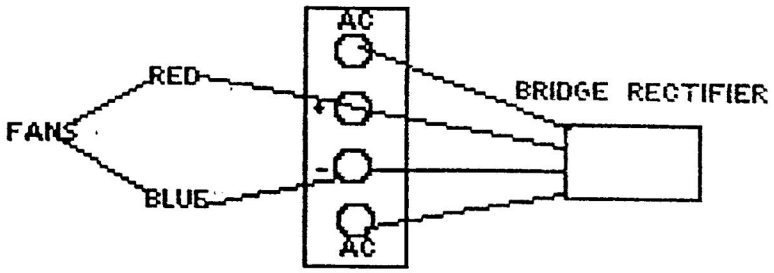
The power wires are soldered direct to a PC board on top of the transformer. This is where you solder the wires to take the 240 V to connect to the other transformer that you are about to put in. Before you solder take a screwdriver an scratch the varnish off that cover the blobs of solder and after tinning the ends of your wires use a hot iron to quickly solder your 2 wires on top so that they will come out to the back of the computer, (please remember to use thin wire with 240 volt insulation only) and do not make the solder blob too high, keep it flat so that the cover will go back.

You can now put the cover back over the transformer. The wire should be about 20 or 25 cm long to solder onto your 12v tranny. If you use the transformer I have you will see it has 2 pair of terminals marked 0 - 120V, 0 - 120V with a gap in between.

Take a pair of sidecutters and cut all the pins that stick up off (not the ones where the little wires are soldered on because thats where you will solder your wires on) With a little bit of wire join the center set of pins so that the 240 V wires go onto the outside set of pins (120+120=240V). On the other side are 4 pinsm arked 0 - 12V 0 - 12V join the two -0- pins together and join the two 12V pins together with low voltage wire and bring two wires out long enough to goto the switch or if you do not want a switch go to the terminal block.

Wrap insulation tape around the terminals of the tranny and you can cement it on its side between the heat sink and the post that the keyboard rests on.

After the cement dryes then connect the wires from the transformer to the two pins marked AC on the bridge rectifier and make sure that the two red wires from the fans go to the + or positive pin and the two blue wires go on the negitive pin or the fan will not work. Under no circumstances is the fan to be connected direct to the transformer because AC will distroy the fans. If the fans do not run it may be because you have the pos. and neg. around the wrong way.

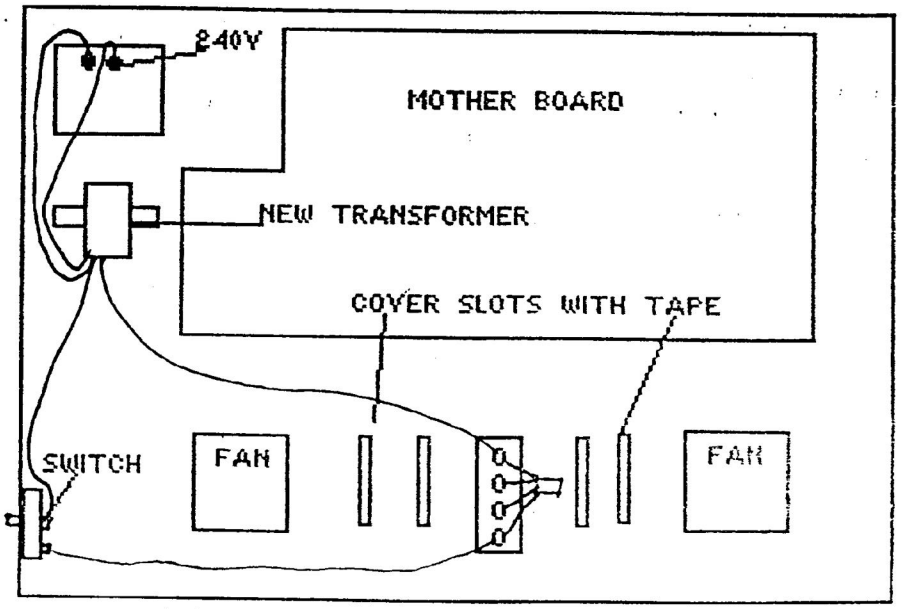


Well without going into too much detail that is about it. Just to check things out before putting the keyboard back in place you can make sure that the on-off button is out (off) connect the power on and the fans should run. If not you have not done things right like I told you to do, remember it is a good idear to check things as you go along and if in doubt it pays to ask somebody.

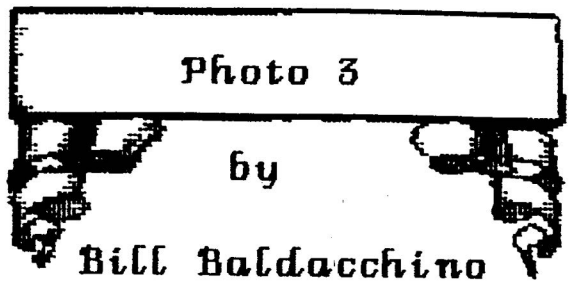
If you use a power pak then it is much easer to make this work and it costs about the same but I do not like wires dangling around to get caught in things ETC. Good luck and be carefull with the 240 Volts.

This mod is only for COCO 3 made for the Pal system used in Australia.

COVER SLOTS UNDER COMPUTER WITH TAPE



John McNabb.



This one is little beauty that combines your disk and tape. Simply place an Elvis song on tape into your tape deck and then run the programme. You can then sit back and listen to the King while looking at his picture on the screen.

Well done Bill and thanks for your submission.

```
0 CLS:POKE65497,0
10 PRINT@68,"**ELVIS
IMPERSONATOR**"
20 PRINT@140,"* BY *"
30 PRINT@197,"* BILL
BALDACCHINO*"
40 PLAY"V0;A;A;A;A;A":CLS
50 PRINT@68,"INSERT ELVIS
CASSETTE"
60 PRINT@134,"*** PRESS PLAY ***"
70 PRINT@388,"PRESS ANY KEY WHEN
READY"
80 A$=INKEY$:IF A$=""THEN80
90 CLS
100 PRINT@68,"* DEVELOPING
PHOTO*"
110 PRINT@196,"* ONE MOMENT
PLEASE*"
120 PLAY"V0;A;A;A;A;A"
130 HSCREEN4:PALETTE0,63
140 PALETTE1,63:HCOLOR1
150 HPRINT(2,2),"ELVIS"
160 HPRINT(3,4),"IMPERSONATOR"
170 HPRINT(58,50),"B.BALDACCHINO"
180 FOR L=1TO66
190 READ A,B,C,D
200 HLINE(A,B)-(C,D),PSET
210 NEXT
220 DATA 177,34,180,168
230 DATA 210,15,358,11
240 DATA 408,34,408,171
250 DATA 190,173,380,182
260 DATA 200,40,205,148
270 DATA 220,32,350,27
280 DATA 374,39,379,149
290 DATA 230,160,356,163
300 DATA 335,80,335,82
310 DATA 337,80,337,82
320 DATA 290,36,300,36
330 DATA 331,70,331,85
340 DATA 330,70,330,85
350 DATA 318,82,334,96
360 DATA 277,121,290,128
370 DATA 277,121,252,105
380 DATA 252,105,234,90
390 DATA 234,90,229,89
400 DATA 237,34,230,33
410 DATA 210,65,203,74
420 DATA 203,74,212,74
430 DATA 230,90,252,70
440 DATA 292,67,294,72
450 DATA 292,67,294,67
460 DATA 294,67,300,70
470 DATA 280,114,282,114
480 DATA 233,85,240,90
490 DATA 250,93,264,92
500 DATA 250,93,249,91
510 DATA 309,74,307,80
520 DATA 307,80,302,85
530 DATA 302,85,293,82
540 DATA 272,85,280,90
550 DATA 267,92,273,104
560 DATA 273,104,270,108
570 DATA 282,114,284,116
580 DATA 285,110,299,106
590 DATA 299,106,292,100
600 DATA 278,116,280,114
610 DATA 284,116,290,113
620 DATA 290,113,304,114
630 DATA 304,114,280,118
640 DATA 310,70,320,82
650 DATA 310,70,300,70
660 DATA 320,82,318,84
670 DATA 318,84,316,94
680 DATA 316,94,318,120
690 DATA 292,128,287,137
700 DATA 287,137,292,142
710 DATA 292,142,288,149
720 DATA 288,149,308,162
730 DATA 328,162,332,155
740 DATA 332,155,333,148
750 DATA 333,148,355,146
760 DATA 360,120,369,139
770 DATA 360,120,358,100
780 DATA 358,100,362,91
790 DATA 290,122,310,115
800 DATA 290,123,305,117
810 DATA 290,123,280,118
820 DATA 304,113,312,115
830 DATA 304,113,294,113
840 DATA 290,82,305,83
850 DATA 290,82,275,89
860 DATA 230,90,250,95
870 DATA 228,33,300,35
```

```
880 FOR R=1TO40
890 READ A,B,C,D,E,F,G
900 HCIRCLE(A,B),C,D,E,F,G
910 NEXT
920 DATA 216,35,40,1,1,.50,.75
930 DATA 350,40,59,1,1,.75,.0
940 DATA 376,165,34,1,1,.02,.25
950 DATA 199,165,20,1,1,.25,.50
960 DATA 220,42,21,1,1,.50,.75
970 DATA 230,146,26,1,1,.25,.50
980 DATA 345,42,29,1,1,.75,.0
990 DATA 348,149,30,1,1,.00,.25
1000 DATA 196,88,140,1,1,.00,.08
1010 DATA 240,74,98,1,1,.86,.99
1020 DATA 250,90,96,1,1,.93,.01
1030 DATA 278,105,9,1,1,.20,.65
1040 DATA 279,105,8,1,1,.20,.65
1050 DATA 310,140,110,1,1,.81,.87
1060 DATA 387,146,130,1,1,.47,.55
1070 DATA 387,149,130,1,1,.47,.50
1080 DATA 340,150,90,1,1,.58,.64
1090 DATA 298,62,90,1,1,.40,.62
1100 DATA 280,48,50,1,1,.21,.35
1110 DATA 252,104,30,1,1,.69,.84
1120 DATA 255,93,7,1,1,.02,.50
1130 DATA 255,93,8,1,1,.20,.50
1140 DATA 254,93,9,1,1,.20,.50
1150 DATA 330,117,90,1,1,.65,.70
1160 DATA 323,114,80,1,1,.65,.73
1170 DATA 302,90,20,1,1,.50,.60
1180 DATA 274,66,50,1,1,.16,.22
1190 DATA 286,79,24,1,1,.10,.28
1200 DATA 250,122,35,1,1,.85,.90
1210 DATA 254,85,55,1,1,.15,.20
1220 DATA 287,104,7,1,1,.90,.25
1230 DATA 280,107,9,1,1,.10,.30
1240 DATA 267,95,57,1,1,.14,.20
1250 DATA 295,97,50,1,1,.25,.30
1260 DATA 280,115,40,1,1,.05,.16
1270 DATA 290,110,40,1,1,.12,.25
1280 DATA 344,134,30,1,1,.07,.20
1290 DATA 269,111,8,1,1,.75,.00
1300 DATA 290,50,30,1,1,.75,.85
1310 DATA 250,56,30,1,1,.15,.30
1320 HCIRCLE(335,77),10,1,2
1330 HCIRCLE(332,76),7
1340 HCIRCLE(333,76),8
1350 HCIRCLE(334,76),9
1360 HCIRCLE(330,76),2
1370 HCIRCLE(330,76),3
1380 HCIRCLE(292,84),4
1390 HCIRCLE(292,84),2
1400 HCIRCLE(280,117),3
1410 HCIRCLE(280,117),2
1420 HCIRCLE(281,116),2
1430 HCIRCLE(296,105),3
1440 HCIRCLE(296,105),2
1450 HPAINT(260,36),1,1
1460 FOR X=82TO94 STEP1.5
1470 HLINE(318,X)-(334,X+14),PSET
1480 NEXT
1490 FOR X=90TO105STEP2
1500 HLINE(315,X)-(328,X+14),PSE
1510 NEXT
1520 FOR X=66TO72STEP2
1530 HCIRCLE(214,X),9
1540 NEXT
1550 FOR X=305TO310STEP4
1560 FOR Y=42TO50STEP2
1570 HCIRCLE(X,Y),9
1580 NEXT Y,X
1590 HCOLOR3
1600 FOR X=105TO120STEP2
1610 HCIRCLE(320,X),1
1620 NEXT
1630 HPAINT(290,115),1,1
1640 HPAINT(290,80),1,1
1650 HPAINT(240,91),1,1
1660 HPAINT(253,91),1,1
1670 HPAINT(285,108),1,1
1680 HPAINT(320,158),1,1
1690 HPAINT(320,167),3,1
1700 HPAINT(240,150),2,1
1710 HPAINT(210,40),2,1
1720 HPAINT(360,50),2,1
1730 PALETTE0,62
1740 HCOLOR0
1750 FOR X=1TO15STEP3
1760 HCIRCLE(320,105),X
1770 NEXT
1780 PALETTE1,60:PLAY"V0;A"
1790 PALETTE1,57:PLAY"V0;A"
1800 PALETTE1,0
1810 ON BRK GOTO1840
1820 MOTORON:AUDIOON
1830 GOTO 1830
1840 PALETTE CMP:POKE65496,0
1850 CLS
1860 AUDIO OFF:MOTOR OFF:END
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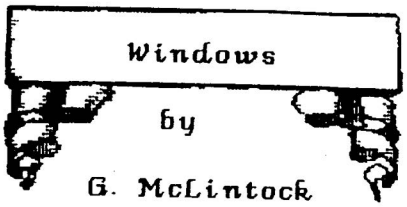

The following article was printed in CoCo-Link some time ago when Robbie was still producing it. As suggested by John McNabb, I am reprinting it here just to show that although IBM machines are more prolific, they are not necesarily the best. In fact in my humble opinion, for what the CoCo is mainly used for in a lot of cases, ie word processing, database and spreadsheets, it is most definitely value for money. Just compare the latest IBM at around $2500 plus a heap more for additional cards, software etc with a 512K CoCo 3 with OS9 and 40Meg hard drive, for under $500.

My CoCo will do me for quite some time yet.

WINDOWS 3 AND OS9
****

By George McLintock

As a hobby type programmer I often take an interest in current fads and recently got a copy of Windows 3 for a look at. I was rather disappointed with the results

The package itself (for around $175 locally) provides no access to any of its features that you can use from your own programs. If you want to do a simple thing like position a system window on the screen from your own program then you apparently have to spend another 700 odd dollars to get a software developers kit as well. This is not hobby type money so I can't comment on what you might get if you buy that as well.

I have a much older multitasking/multi windows type operating system that runs on my old computer (OS9 on a Tandy Color computer (CoCo)) and some comparison between it and the 'new generation' windows might be of interest.

A simple direct comparison of the CPU/software overheads associated with multi tasking on the two systems is as follows. The reduction from the native mode value is a measure of these overheads.

Windows(386) OS9(CoCo)
Native Mode (DOS on 386)
.....100..... 18.77
Multi tasking/windows
  Single task
33.....18.77
  Two tasks
29.....18.69
  Three tasks
30.....18.58
  Four tasks
32.....18.40
  Five tasks
33.....18.27
  Six tasks
33.....18.10

These relative weights were obtained from a simple compiled Basic program on each machine that counts the number of times a common loop is executed per minute of actual elapsed time. (CPU fully occupied). The same program was then run as multiple tasks to produce a separate count for each task which were then added to obtain a total count for the specified number of tasks. The reduction in total count for multiple tasks is a measure of the cpu/software overheads of multi tasking. I am aware of the problems with this sort of comparison, and will ignore all criticisms of the methodology

Windows 3 incurs an enormous penalty for the first task in a multi tasking environment, but after that it gives some erratic results. (5 tasks give the same count as 1, which is significantly higher than 2 or 3 tasks). I have no idea why. OS9 does its multi tasking with standard time slicing and the results are as you might expect. Native mode with OS9 is a single task, single window environment anyway. The original CoCo mode has interpreted Basic only.

THE SYSTEMS:

Some knowledge of the two systems involved will make the comparison even more interesting. The windows values were obtained from a standard type 386 SX (16 MHz clock, landmark around 21 MHz) with 8 Megs of memory. Multiple tasks were run as DOS programs in their own window, started from the keyboard, with the total count per minute derived from whole minutes with no keyboard or mouse activity. Rather painful but can be done. I assume the general background of the 386 system is known, and apologise to those unfamilar with it.

The original Tandy Color Computer (CoCo) is older than the original IBM PC (by at least a year). The model used here (CoCo 3) was released in 1986. It uses a 1.66MHz 6809 CPU. (and yes there is a decimal point between the 1 and the 6. The original CoCo is 0.83MHz). The 6809 is from Motorola, has an 8 bit data path, 16 bit internal registers (Intel's 8088CPU has a similar system) and 16 address lines. It uses a separate memory management unit to address up to 512K in 8K blocks of actual memory. (64K at any one time). (1meg upgrade kits from third party suppliers). For comparison, the same program under DOS on a 4.7MHz 8088 produces a relative count of 13.2.

The OS9 operating system is a real time multi-user multitasking operating system written for the

Motorola 68XX[X] family of processors, and recently available for Intel 80386 processors as well. Multi tasking is standard, all compilers produce re entrant code, modules are linked at run time, all I/O is through standard interfaces by means of device drivers, all graphics modes are supported etc.It provides very efficient use of memory and 512K is a reasonably large system. eg the Basic runB module is 12K and only a single copy is required in memory for any number of different programs. Each source module can be compiled separately and contains direct code for that source only. If it calls another module at runtime the system will automatically link to that other module as required. If the other module is not in memory, it is automatically loaded so that the link can be established. A single module can be used by any number of other modules at the same time. The link is established simply by calling the routine.

As another trivial and simplistic comparison, the Quick Basic runB module is approx 77.5K and thec ount program compiles to approx 6.7K. Apart from its other overheads, Windows 3 loads a total of 84K (77.5 + 6.7) of program code for each task. The OS9 equivalents are 12K for the runB module and 410 bytes (noK's) for the count program. OS9 loads 12K + 410 bytes for the first task and then adds an extra 64 bytes in the system page for each additional time the task is run.

OS9:

OS9 Level 1 (with a 64K memory limit) was released for the CoCo in 1983. Level 2 (any amount of memory) was released with the CoCo 3 in 1986. Around 1987 Tandy released a standard GUI (graphics user interface) (Called Multiview) for OS9 which appears very similar to Windows. For a non technical user they would appear to be much the same.

Software packages come with the equivalent of a Window's .PIF file which will automatically set them up to run under Multiview. You drive the system with a mouse, joystick (emulating a mouse) or keyboard. Icons etc follow the same general style as windows.

OS9 windows are proper system type windows with the basic unit being device windows that can be text or graphics. You can have any number of these (within limits), of any size, located anywhere on the physical screen, as well as a number of different physical screens accessible by a screen change 'hotkey'. They are standard OS9 devices and a program can direct its output to any device open to it. Output can be automatically scaled to match the actual window size. Device windows cannot overlap each other on the physical screen and all must be the same type (text or graphics) at any particular time. Graphic device windows can be any resolution and can be mixed, within the limits of the physical display hardware. eg a program using a 4 color screen can have a device window on the same physical screen as a program using a 16 color device window, within the limits of no physical overlap etc. The physical screen is of course set to 16 color mode in these circumstances, with some practical limitations on sequences etc.

Overlay windows sit on top of device windows and can be located anywhere within it. The normal procedure is to start a process in a device window which belongs to it. Different modules within that process can then use overlay windows to locate their output anywhere within it. However, programs can send their output to different device windows and run overlay windows in them. Assuming the owner of that other device window (if it has one) allows it. A process owns a device window if it is running under a separate shell within it, otherwise it is open to all comers. The system provides a standard set of clipboard type buffers to allow for the transfer of data between processes. These can be used without any direct linking between processors at run time.

WINDOWS 3:

These general concepts don't seem to apply too well to Windows 3. In one way it seems to operate as a single full screen device window with each task having its own full screen overlay. A better alternative might be to consider it as allowing device windows to overlap each other, with each task having its own full screen device window overlaying the one below it. This might at least make some sense for the requirement to re-install the whole system to change the graphic display mode. I expect it would be logically very difficult to overlay graphic device windows with different resolutions.

Windows 3 does allow you to change the size and location of the window for a task by using the mouse to drag the edges. However, when you do this you are not actually changing the window itself, position 0,0 remains in the top left corner of the physical screen so it is not even a true overlay window either. All you appear to be doing is to change a Basic type view of the actual window which continues to occupy the full physical screen.

CONCLUSION:

Performance wise, OS9 offers many features not available with Windows. It is a true multitasking, multiuser system which windows is not. Apart from its age and CPU performance, OS9 on the Coco 3 performs very well. Its main drawback is that the CoCo was discontinued outside the USA a couple of years ago, meaning that there is a vast lack of corporate support for the

machine and the system. Cocos can still be acquired in Australia second hand at very good prices.

Windows on the other hand, has vast support and this is growing in leaps and bounds. Windows also requires a system which costs in excess of $2000.

It can therefore be said that the main difference which will affect potential users is price.....as usual.

THE TANDY COCO IS DEAD!!

By Peter Morgan.

After ten years the Tandy Colour Computer is finally being layed to rest.

Yes, that's right the CoCo has died (in Australia anyway). With InterTan (Tandy) no longer obligated to supply parts for the machine as of 1996 (hence the list supplied to CoCo-Link issue 3 Vol 3. Well they never really supported the computer in the first place.

And now the fold of REMCOMS due to the lack of business. For some this may be that you simply don't have the money to buy software or hardware and there could be any number of other reasons for everyone else.

But the biggest blow of all, the folding of CoCo-Link in December. A well produced magazine from a dedicated team for the past seven years, it has now all come to an end.

I myself have enjoioyed receiving CoCo-Link for the past 4 1/2 years and my own opinion is that when Fred & Ros took over the production it's contents improved with age. THANK YOU FRED & ROS for three great years.

PLEASE NOTE: This is only my opinion and is in no way related to CoCo-Link or REMCOMS. And remember that Fred & Ros will still help if they can.

Peter,

I thank you for your submission and comments and yes you are right Tandy will no longer be obliged to supply support for the CoCo. But I do not believe that this little machine will lay down and die, there are too many people who still use it and there are a substantial number of third party vendors still in business.

I for one absolutely refuse to give my beloved CoCo away, not while I can still do everything that I need to do with it and at less than half the price of a mongrel MessyDos machine.

Fred

By the way, Peter also has a Tandy CM-8 Monitor for sale. It is in VGC still in its original box and manual.

Price: $120 inc postage anywhere in Australia.

You can contact Peter at:

4/30 Willmington St
WOOLOOWIN.BC 4030

or Phone:(07) 3357 8170

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* *
* P.C.C.C. *
*Peninsular Colour Computer Club *
* *
****

The PCCC is a user group which could arguably be the longest running CoCo user group in Australia. The club has been going strong for over 12 years that I know of and is still a plethora of information on the CoCo.

They are based on the Mornington Peninsular (Frankston), and can be contacted by telephoning:

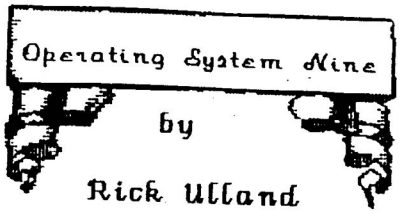
Greg MacKenzie (059) 838 991;

Bob Charleston (059) 791 922; or

Stan Blazejewski (03) 580 4605

Don't forget the PCCC's bulletin board which operates between 9:30pm and 6:30am daily. The number to ring is (03) 580 4605.

****



The basic concept behind a procedure file is simple. Write a list of commands, save them in a file somewhere and any time you need that list of commands performed, type the name of the file. Everybody has them, although 3/4 of the world refers to them as "batch files". You may also see "shellscript" - the basic idea is still the same. There are variations, since the command interpreter influences how the file will act, and Shell isn't that similar to command.com! In this article, 'proc file' means OS-9, while batch file is reserved for MSDOS.BAT files.

The old simple list of commands format has been expanded and moden systems include many features of higher level languages, like variables and logic structures. As usual, the only way to modernize a CoCo is to patch something and here you'll need 'shell+ v2.1 or newer.

WHAT ARE THEY USED FOR?

Procedure files are the smallest, fastest programme that you can write. They require little support beyond the DOS itself and are user transparent. Perfect for small jobs like taming an unweildly command line... to back up my hard drive to /d1, one types 'bak' or clicks the pretty bak icon, instead of always confusing 'cd /h0;files -e!stream -bv /d1'.

Under the stock shell, proc files are limited to executing a 'canned' set of commands. For example, changing directories before running a program. Under Multi-Vue, they can be used to extend an AIF's functions - if you inspect any Tandy VDG game to Mutli-Vue patches, the AIF always calls a procedure file to set up the VDG screen before launching the programme.

Shell+ adds user input and some logic to the proc file. With these tools it's a simple matter to write a menu 'front end' for any difficult to use utility.

CREATING PROC FILES

Ant test editor, word processor, even build can be used to create a proc file. An extension isn't used bu OS-9 to identify proc files, so each should have a simple, one word name, similar to executable programmes. Making a true 'ASCII file on most word processors is simply a matter of leaving the printer controls out, but if yours offers a seperate ASCII save option, use that. Also, some OS-9 utilities (notably dsave) automatically create proc files which can then be edited before executing.

Normally, a proc file is placed in a data directory. This is useful on text screens, a dir lists the available files. But you have to be in that directory, or type a complete pathlist, to get to the file. Shell+ avoids this limitation by allowing proc files in the cmds directory. Just set the execute attribute (remember to rest it if you edit the file later).

Now you have to remember which proc files you have, but there are two instances where this is a good thing. First, system wide procs files (like the one that switches my printers) are usually pretty memorable. But the best case is a proc file launched by a MultiVue AIR. You don't need to see it with the AIF, don't want to see how all these odd box, and hate to see how all these odd little files slows down MVue's movement. So put them in CMDS and don't ever go there!

One other location is allowed by shell+, RAM! There is a pd utility called datamod that merges muliple text files into a 'data module' which can be loaded like merged executable files. Floppy users can load many proc files (as a single 8K datamodule) from the boot disk before swapping to runtime.

Display & Output

Echo is the command used to display text within a proc file. It's very similar to a batch files ECHO-command line symbols <>>>!!;;&^ are taken literally and can't be echoed. Leading spaced are also useless for formatting text, since they are taken to be a single command line separator.

In MS-DOS batch files, the commands ECHO ON and ECHO OFF determine if the text of the batch file is displayed as it executes. OS-9 uses the (almost unknown) t and -t command. For example:

```
t

merge /dd/sys/stdfonts
/dd/sys/stdpats_4....

-t
```

to explain the long disk load in startup. T is also a good debugging aid. Just add to the start of a problem file to see each line before it executes. If t is in effect, shell+ also prints the results of a comparison (true or false) after the source line itself.

A very helpful adjunct to echo is OS9's display command. If you haven't tried display yet, turn to the 'Windows' section of your manual. All of the general commands listed there can be

issued from a proc file with 'display code parameters'. Some of the basics include:

display c - clear screen, home cursor

1 home cursor, no clear
2xy cursor to any xy
7 bell

Display includes everything a CoCo can do, so if you really need blinking underlined reverse video in your proc file try display 1f201f221f24;-). Even graphics - there are a nice selection of graphics balls, boxes, and fills, with unusually good ellipsoidal tendencies, even a set of relative 'draw' commands.

One of my favorite displays is the old overlay window trick. Sometimes you find yourself on a screen you don't want to mess up. Display 1b 22 1 xstart ystart xsize ysize forecolour backcolour opens a nice overlay to run your proc file in, display 1b 23 when you leave.

SHELL+ ADDS MORE OPTIONS:

Pause Text echos text, then waits for key or mouseclick.

Prompt Text echos text, cursor says at end of text (no cr). Used as an input prompt for var.x(qv).

When writing to a file, one feature OS-9 has always lacked was an append/overwrite switch. Now we have them -
>+ >>+ >>>+ filename,
append to end of file.
>- >>- >>>- filename,
overwrite filename.

INPUT.

Under shell+, there are 10 shell variables %0 to %9. These look a lot like MSDOS shell variabls, but are completely different. (msdos vars pass arguments from the command line typed to start the file). Shell+ variables are input from the keyboard with 'var.#'. A useless example:

prompt Enter disk name?
var.1
format /d1 r %1

These variables live as long as the shell does, so if you come out of the proc file using the parent/child swap (covered later) they will still be around he next time a proc file is executed. This is a handt way to pass data between proc files. There is one more user input hidden in the logic statement, whic tests for a one key (y/n) response.

Also added is a new type module, the 'shellsub'. These asm routines return data to your proc file is 10 read only variables %%0 to %%9. Sdate is included in the shell+ archive, to see what it does;

var.?
sdate.bin (assuming it's in cmds)
var.?

The double percent variables can be used directly in comparisons, but can't be changed. They can be assigned to a regular variable for further manipulation (see variables).

Although not tehnically 'user' input, there are many utilities intended to supply data to (or from) procedure files. Many are clones (or subsets) of unix utilities - for example ls. Depending on which ls you have, this gebnerates unformatted lists of all the files in a directory - some sort the output in various ways. A similar utility is included in the shell+ archive - param performs wildcard expansion, then feeds the resulting filelist out one per line - fpor example param she* might list shell, shellmate, shell.doc etc. With tools like param, utilities can be written simply and the selecting done from the shell.

PROGRAMME FLOW AND LOGIC.

Procedure files are not limited to one command per line, in fact you can cram 280 characters into one line. There are three seperators used - semicolon for normal sequential execution, an ampersand for concurrent (multitasking) execution and the exclamation point, which pipes output from the first process to the second.

Especially in the case of printed output, a little multitasking can speed things up, but be careful with utilities that use the disk drives. Your data will be fine but the drive keeps shuffling back and forth between the two, it can take a while if the files are many tracks apart.

The stock shell flows one way (I'll let you name the direction). It does allow comments by starting a line with *. Both shells share a few commands that affect how the file executes. We've already discussed t and -t (the echo modifier). To this add x and -x, the error abort switch. And the last single letter switch is p and -p. This turns off prompting. When you are force feeding a procedure, -p prevents it from sending input prompts like OS-9:.

ON TO GOTO

The high level guys may smirk, but if you've only got two commands, one had better be GOTO. Without line numbers the first 40 characters after a comment * are used as labels. Goto label starts looking at the start or file, while goto+label starts at the current position. The label *\ stops any search right there. Between these three options, it's possible to do some pretty fancy stepping.

Almost as important, onerr goto label (and the related onerr goto +/abel) provide enough error trapping ability to keep the

average user running. special variable %* contains the last error code generated.

Our ten variables %0 - %9 aren't typed at all, just raw storage. It's up to you to keep numerics and the alphas seperated when you start comparing things later. Where # is 0 to 9:

var.# up to 80 chars from keyboard;
var.#"string" assign up to 80 chars constant;
dec.# decrease # one;
inc.# increase # one.
Everybody knows this construct:
if test then statement else statements endif.
spread over several lines. The test itself is unique - first a special case - y (used alone) tests one character from the keyboard. It's either true (y) or false (n). For normal boolean tests, the compare defaults to ascii. Leading the tst expression with a + forces numeric comparison. More example;

var.1=2.00
if%1=2then.....is false."2"<>"2.00"
if+%1=2then.... is true.2=2.00
any semi-normal operaator is accepted. < <= =< => >= =>>.

Since after all, the main reason for DOS is managing disk files, there are many file tests.

-f path true if file exists;
-r path true if file exists and readable;
-w path true if file exists and writeable;
-c filename true if file exists in execution directory;
-d path true if file is a directory.

A false test jumps to else or endif (or it's alternate spelling, fi) and errors out on overrange (>80 characters) or abscence. Unless abort on error is turned off - then an error is treated as true, (unlike system errors, proc file errors can't be trapped).

Thats it. If you are used to a language like basic09, the above looks a little sparse. But if you think of what the high level commands do, and you will see most anything can be accomplished. Inc and Dec make handy loop counters (both wrp around at 65535). C style 'case' structures are emulated with goto %#. I used to do that on my Sinclair. The only difference between.while/do and do/until is which end of the loop you test it.

LAUNCHING PROGRAMMES.

Unlike MS-DOS, OS-9 has almost no built in commands and almost every line will need something loaded from somewhere. Common utilities can often be found already loaded (in mdir) but don't count on it. Assume that every command and file will have to be loaded and the proc file will probably be moved some odd ball place - use complete path lists to everything except perhaps /dd/cmds.

MS-DOS and others include a path command, thanks to shell+ we do to. Path temporarily adds extra cmds directories to the exe search path - a very handy feature. For instance, a hard drive user may want to test out a floppy based programme and still keep the main CMDS dir online. Just use:

path /dd/cmds /d0/cmds

Easy enogh from the command line but from a proc file the path statement can easily 'hang' the computer if an empty drive is included in the path and the file in question isn't found before it hits the drive. Always prompt the user before including floppy directories.

When the programme is given, OS-9 normally forks an extra shell to run it. This already happened once, when the original shell started another child to run the batch file. When a programme is launched from a batch file by name only, a third shell joins the stack. This action sometimes causes changes, the proc file made to 'disappear' as the shells are stacked back to the original parent.

So, the command line option was born.

Stock:

Progname;
the mess described above. Note these 'mortal' process can be killed with ESC (ctrl-brk) key.

Ex Progname;
leaves off the new shell. When programme dies, it's really dead. More important, your batch file won't come back - do any ex-ing on the last line.

Progname 1=/dev;
'immortal' process is kind of like the energizer bunny - you can't kill it. Another end of line command.

Shell+ adds;

Progname z=/dev;
Think about the mess described above. Now, kill the parent shell and keep the child shell instead. In other words, the chd, path and variables remain.

Progname ^#
Where # is 0 - 255 and represents the priority for the programme. This was (Ithink) broken in the original shell+2.1.

GOING FURTHER

Procedure files are very useful but they can't do everything. Sometimes a packed Basic09 programme is needed to handle the job. MultiVue reveals another problem. When a proc file is placed in the cmds (or worse, an alternate location set by path), calling it from an AIF requires

the magic word shell as 'programme', with the proc file name as parameter - all the icons just say 'shell'! The solution is to have a packed basic09 procedure do the job (or just call the proc file you wanted ib the first place). Now the AIF can be written with basic09 procedure name as programme, parameters blank and the icons display a meaningful name.

Other languages aren't as easily interfaced. One possibility is using the 10 shellsub variables to pass dtata back to the proc file, but we are getting a little beyond 'operating'.

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[] Reprinted by permission of []
[] '68micros []
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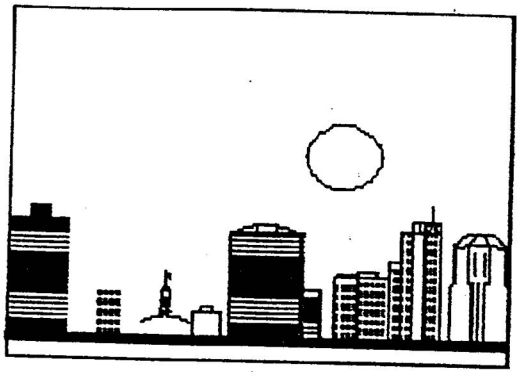
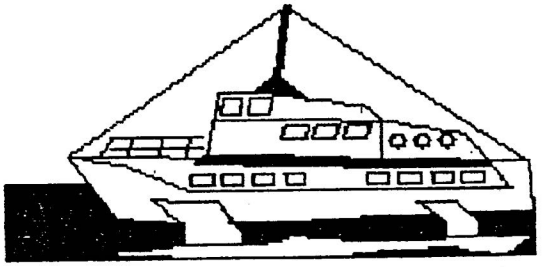
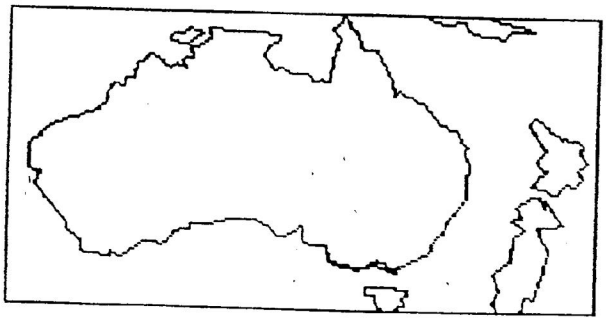






PUBLISHING

COLORWARE

Max-10™

THE DAZZLING WORD PROCESSOR

You probably already have a word processor, and you probably wish it had these features:

Fully menu driven (CoCo Max style) with point and click marking of text. You don't need the arrow keys!

True WYSIWYG (What You See Is What You Get) including variable size fonts, styles (bold, italics, etc.) and graphics.

Can print multiple columns on a page.

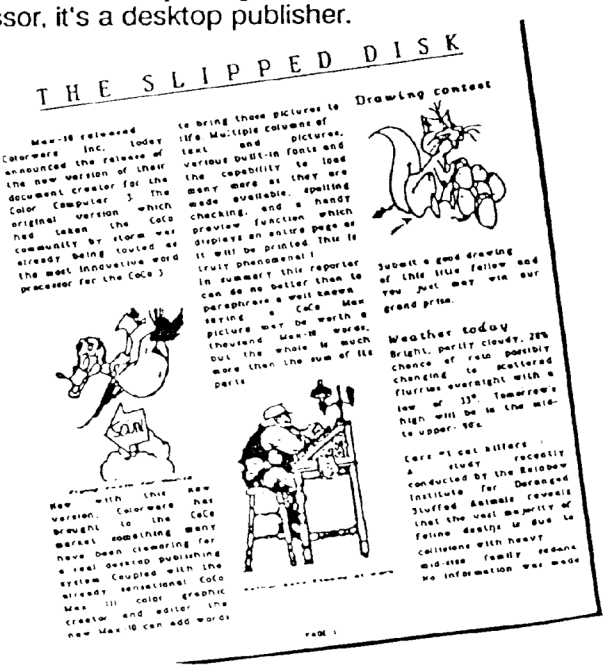
Not limited by printer capabilities: fonts up to 24 points (1/3") high, superscripts, small print, etc.

Fully integrated spelling checker (incredibly fast), no need to exit program to check spelling.

Graphics can be imported from just about anything (CoCo Max; MGE; BASIC; even Macintosh pictures from a BBS) and resized to fit your document.

Full screen preview including graphics.

Max-10 has all these unique features, plus all the features you are used to in your current word processor. Even with all this, you don't give up anything. Max-10 is easier to use, more intuitive, faster and more powerful than anything else. It's not just a word processor, it's a desktop publisher.


THE SLIPPED DISK

Drawing contest

Weather today

Some of the many features of **Max-10:**
- Blinding speed - printing in multiple columns - online dictionary - spell checking - graphics can be mixed with text - full justification of proportionally sized characters - bold, italic, underline superscript and subscript type styles - superb file support, just point and click - "Undo" lets you correct mistakes - easy to use, no commands to remember - any graphics program can be used - pictures can be shrunk or stretched to fit - right and left alignment - centering - variable line spacing - page numbering - current page number displayed on the screen - variable tab stops - left and right margins - tabs and margins can vary in the same document - cut and paste text and graphics anywhere in the file - page break shows on the screen - pull down menus are quick and simple to use - lightning fast access to any point in the document with the scroll box - twenty fonts (styles and sizes), more available - any number of character sizes and styles can be mixed on the same line - up to more than 120 characters per line, depending on font size, style and letters - headers and footers, even with graphics - file compatibility with other word processors - right, left, bottom and top margins - word wrap - set starting page - type ahead - key repeat - key click - scroll up and down - ASCII file output for compatibility - disk directory - kill files- block cut, copy and move - global search and replace - paragraph indent - clipboard - merge - show file (on disk) - free memory display - page count - paragraph count - word count - graphics can be resized and moved - multiple fonts - error recovery - true lowercase - 512K memory support (all features work with 128K too) - complete point and click cursor control - moving, clearing and changing blocks of text is ridiculously easy, just point and click at each end of the text block - onscreen ruler - preview file before loading - search and replace - disk is not copy protected - more than 35 pages of text

CoCo Max III and Max-10 Perfect Together

You do not *need* **CoCo Max III** to insert and print graphics in **Max-10**. Max-10 works with any graphics creation program, and you can also use graphics downloaded from bulletin boards.

Similarly, you do not *need* **Max-10** to create graphics with text in **CoCo Max III**. There are tremendous lettering capabilities in **CoCo Max III**, with its many fonts, styles, and sizes.

Together **Max-10** and **CoCo Max III** are an unbeatable combination. This desktop publishing system is better than anything you've ever seen on a CoCo. We are so confident that you will use, and enjoy using the two software packages, that we offer an unconditional money back guarantee. Stop wasting your time and effort using inferior or obsolete products. Move up to the new generation of CoCo software now.

Max-10: $79.95

CoCo Max III owners: deduct $10

Max-10 requires a CoCo 3, at least 1 disk, & joystick or mouse

Printer drivers included: IBM/Epson and compatibles: DMP 105, DMP106, DMP130, CGP220 (B&W); Gemini/Star

AUSTRALIAN OS-9 USERGROUP
PUBLIC DOMAIN LIBRARY

21 Virgo Street
INALA. Qld. 4077
Australia.

INTRODUCTION

Welcome to the Australian OS-9 Usergroup Public Domain Library!

WHERE I AM:

My address you'll see at the top of the page.
My phone number is:

(07) 2787209

Please only call me between the hours of 10:00 AM and 9:00 PM.

Also, I can be reached by FAX on:

(07) 3728325

Please mark your FAX: **ATTENTION: Bob Devries**

WHAT I HAVE:

Currently in the PD Library I have a large quantity of OS-9/6809, OS-9/68000, OS9000, and RSDOS software. The list is made up of:

OS-9 Community Network Library files
approx 23MB
Australian OS-9 Usergroup archives
12 disks (80 trk CoCo OS-9)
OS-9 Usergroup (USA) disks
11 disks (80 trk CoCo OS-9)
The OS-9 Project (TOP - OS-9/68000)
15 disks (80 trk CoCo OS-9)
OS-9 listserver files from Princeton
Size unknown at this stage
COCO listserver files from princeton
Size unknown at this stage

Also, I will make available the file lists from the Internet sites, wuarchive, and chestnut.

There are, of course, many duplications in the libraries, except for the TOP library, which is somewhat unique. In the OCN library, there are 322 RSDOS programmes of various types, mostly BASIC, but some picture files (Pmode 4), some MUSICA files, and others.

GETTING FILE LISTS

You can get lists of the files in the PD Library, by sending me up to four OS-9 formatted blank disks. On them I will put text files which will list the file names, and in some cases, a short description. These can be read with the OS-9 'list' command, or 'more' (which I can supply), or they can be loaded into a word processor. Listing them to a printer would work, too, however, the list is very long, so be prepared!

WHAT DOES IT COST:

I will supply the text files FREE, except for return postage!

After that, I will charge $2.00 PER DISK, plus return postage. You supply the disk(s), formatted on your computer.

Quantity discounts are available, please ask.

DISK FORMATS:

I can read and write the following formats:

COCO OS-9

80 track double or single sided, 5.25" or 3.5"
40 track double or single sided, 5.25"
35 track single or double sided, 5.25"

OS-9/68000

Currently any Microware supported 3.5" format, but only double density, I can't do high-density disks.

COCO RSDOS

35 track double or single sided, 5.25"

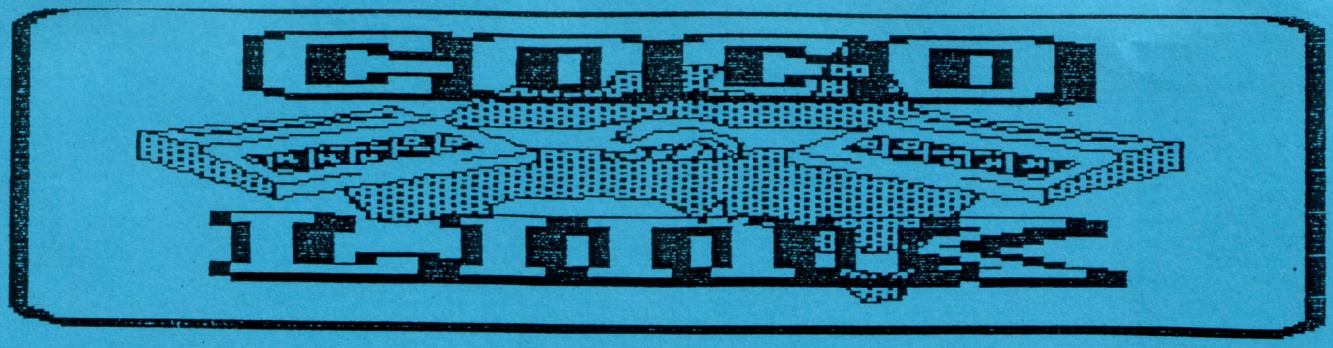
Other disk formats MAY be available, please ask me.

CONCLUSION:

Membership of this PD Library is NOT restricted to members of the Australian OS-9 Usergroup, so show this letter to fellow OS-9 and CoCo users.

This is your best opportunity to get OS-9 and RSDOS PD software. Put some new life into your computer! Get some PD programmes today!

Regards, Bob Devries
Australian OS-9 Usergroup
PD Library



Name	Street	Town/State/PC	Phone No
Alway Peter	P.O. Box 821	Boronia Park/NSW 2111	02 816 2130
Barker Bob	P.O. Box 223	Glenfield/NSW 2167	
Bentzen Gordon	8 Odin St	Sunnybank/QLD 4109	07 344 3881
Blazejwski Stan		Mordiallic/VIC	03 580 4605
Boardman William	10 Eltham Ave	Pt Lincoln/SA 5606	086 82 2385
Bye Graham	9 Airlie Bank Rd	Morwell/VIC 3840	051 34 5954
Brady Gaye	Mocatta's Corner M/S 501	Dalby/QLD 4405	076 696 241
Cameron William	2/22 Warren St	St Lucia/QLD 4067	07 371 4736
Colls Jason	46/21 Usher Ave	Labrador/QLD 4215 (015 594 627) OR	075 325 639
Cooper Len & Shirley	223 Elswick St	Leichardt/NSW 2040	
Cosier W.F	32 Argyll St	Coffs Harbour/NSW 2450	066 524 056
Cunnigham Eric	7 Nuthatch St	Inala/QLD 4077	07 372 2980
Dalzell Robbie	31 Nedland Cres	Pt Noarlunga/SA 5167	08 386 1647
Devries Bob	21 Virgo St	Inala/QLD 4077	07 278 7209
Donges Geoff	P.O. Box 326	Kippax/ACT 2615	06 254 9354
Eadsforth Jim	P.O. Box 329	Goolwa/SA 5214	
Edwards Peter	40 Davison St	Mitcham/VIC 3132	03 873 5249
Elphick Graham	26 Birch St	St Mary's/NSW 2760	02 623 8141
Gall Brian	P.O. Box 131	Cooranbong/NSW 2265	049 772 178
Hester Joseph	49 Truscott Rd	Moe/VIC 3825	051 271 158
Holder Garry	229 Esplanade	Seaford/SA 5161	08 386 1139
Hutchinson Simon	10 Ascit Court	Nth Dandenong/VIC 3175	03 790 0967
Ikin John	42 Spruce Dve	Rowville/VIC 3178	03 759 6253
Johnson Fraser	35 Robson Ave	Gorokan/NSW 2263	043 923 298
Kenny Bob	3/14 Bellingen Rd	Coffs Harbour/NSW 2450	066 51 2205
Lidgard Ron	17 Acacia St	Thornlands/QLD 4164	07 286 2776
McGrath John	93 Lemon Guns Dve	Tamworth/NSW 2340	067 618 071
McLintock George	7 Logan St	Narrabundah/ACT 2604	06 295 6590
McNabb John	P.O.Box 109	Boronia/VIC 3155	03 758 9008
Morgan Peter	5/18 Bere St	Gaythorne/QLD 4051	07 354 1215
Morris John	30/45 Lawrence Hargrave Rd	Warwick Farm/NSW 2170	02 822 4678
Munro Ron	91 Blackburn Rd	Elizabeth E/SA 5112	08 252 2616
Murrells Alan	5 Goulburn Ave	Corio/VIC 3214	052 75 3065
Quinn Stephen	2/7 Park St	Orange/NSW	063 62 4748
Rae Desmond	P.O. Box 2076	Mt Isa/QLD 4825	077 43 3486
Remin Fred	P.O. Box 787	Thuringowa Central/QLD 4817	077 734 884
Remin Fred (The older one)	3/1 Franklin St	East Doncaster/VIC	03 842 8545
Rosch Raymond	5 Euphrates Pl	Kearns/NSW 2558	02 820 7228
Schmidt Richard	5A Stephens Ave	Torrensville/SA 5031	08 354 0951
Steman John	P.O. Box 680	Windsor/NSW 2756	
Stephen Val	1 Mabel St	Camberwell/VIC 3124	03 830 5668
Vagg Johanna	9 Belah St	Forbes/NSW 2871	068 52 2943
Williams Arthur	67 High St	Harrington/NSW 2427	065 56 1517

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If you would like your name included in the above list in order to help other cocoists and to maintain contact between us, then send in the above information to me for inclusion in the magazine.

Do you know of the existence of a user group in your area or are you considering starting one up again? Let me know the detail including the contact names and phone numbers, meeting place, times etc, and I will print it in this magazine.

COCO LINK

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