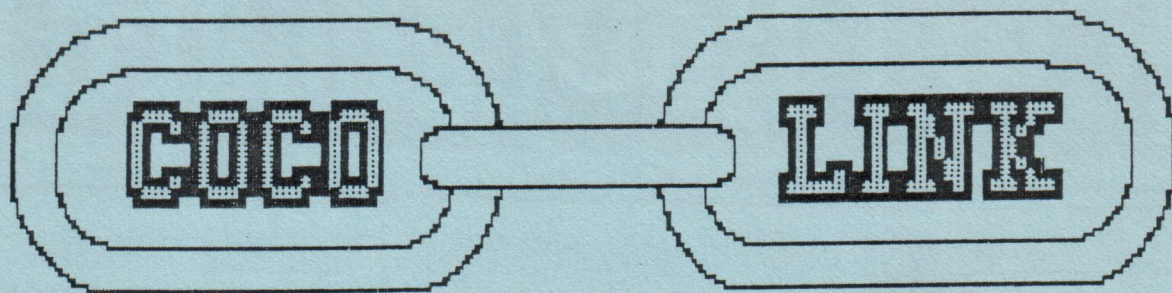
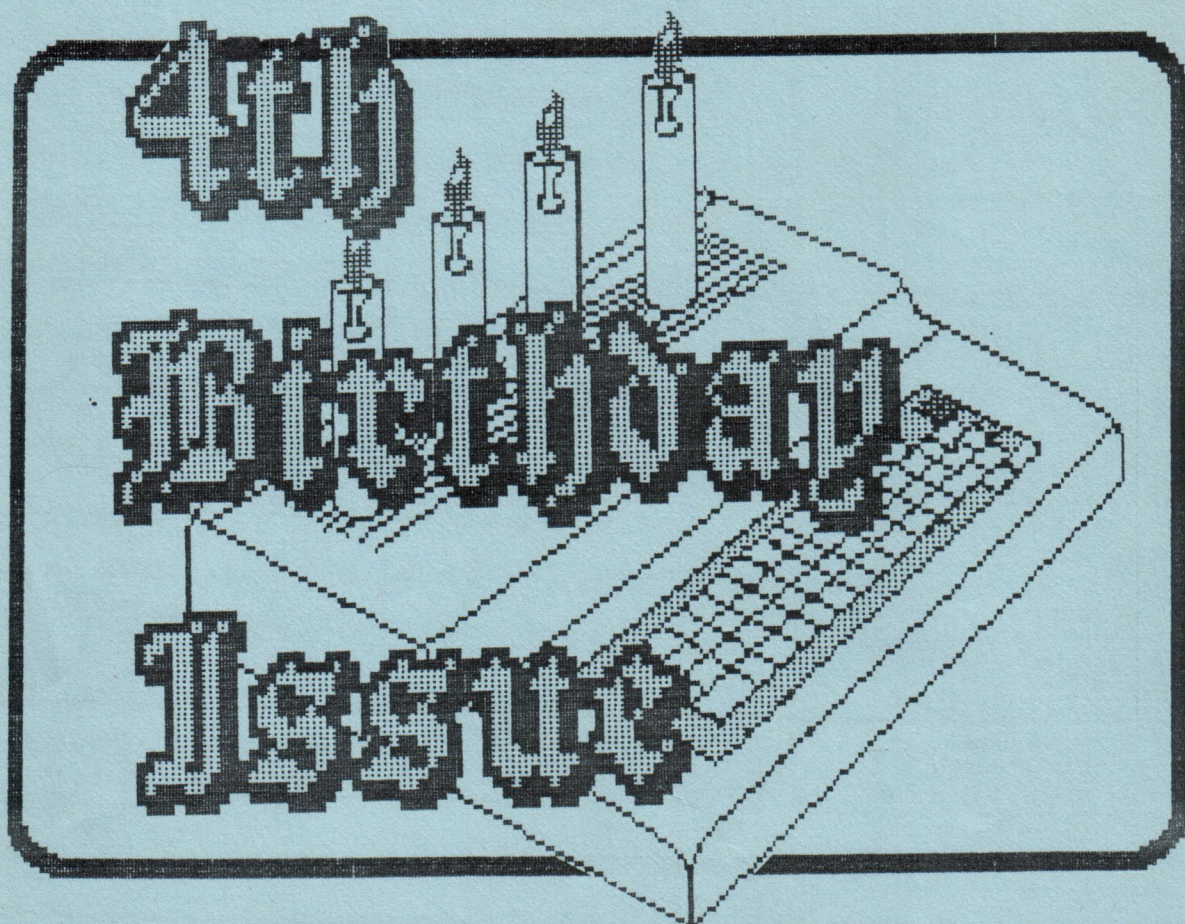


Feb/Mar 1992

Vol 5. No.1



The Color Computer Magazine



Featuring:

Solitaire

Labour Costing

Hardware Project

Utilities & much more

Club Noticeboard

CLUB CONTACTS

AMUG.....	Dick Burke	Moe User Group....	Joseph Hester
	08 296 2995		051 277 817
			Ian Taffs
			051 275 751
Basic.....	Johanna Vagg	OS9 User Group....	Gordon Bentzen
	058 522 943		07 344 3881
Brighton.....	M. Winter	Peninsula CCC.....	Bob Charleston
	07 269 4373		059 791 922
			Greg McKenzie
			059 837 255
			Gordon Chase
			059 711 553
			Robert Hillis
			03 563 3553
Brisbane North....	M. Webster	Penrith CC Users..	Debbie Collier
	07 285 6551		047 213 945
			047 217 322
Brisbane-S/W.....	Bob Devries	Springwood Users..	P. Richardson
	07 372 7816		047-536 018
Geelong.....	Alan Murrells	Whyalla.....	Fred Porter
	052 753 065		086 450 607

Clubs or persons wishing to be added to this list please inform the editor.

GENERAL NOTICE

This page is provided free for the use of clubs to let people know who, what, and where you are and to let them know what you are doing.

Please send your notices for the following two months no later than the 1st of the month previous to publication.

NATIONAL OS9

USER GROUP

The fullest OS9 information service in Australia.

Monthly magazine included in annual subscription of \$18.00

Write now to:

Gordon Bentzen
8 Odin St.
Sunnybank
Qld. 4109

COCO SUPPORTING BBS'S

Country Club	Ph.(085)-224-434
Communication Barrier	Ph.(03)-331-0385
Decadence	Ph.(03)-794-7949
Fourth Dimension	Ph.(049)-616-178
Happy Hacking	Ph.(03)-787-8759
Hard Rock Cafe	Ph.(03)-894-2815
Modenex	Ph.(03)-331-0385
Memisis	Ph.(03)-331-1155
Peninsula CCC	Ph.(03)-580-4605
Real Connection #1	Ph.(03)-808-0910
Real Connection #2	Ph.(03)-808-0331
Tan-80	Ph.(08)-326 1132

WANTED URGENTLY

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

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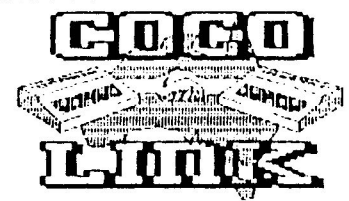
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Robbie Dalzell

ASST. EDITOR:

Garry Holder

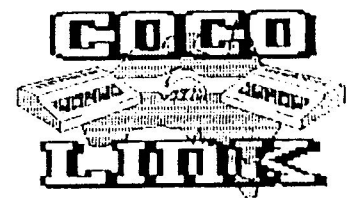
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MAKING A MAGAZINE

We receive many suggestions from readers in how to improve the service we provide here at COCO-LINK. We consider them all on their merits and in relation to the financial burden they may impose on the magazine and also on how much time they will add to the COCO-LINK workload. This is a very important factor. I am sure many readers do not know what is entailed in turning out COCO-LINK every two months, so the following will lay you into the secret.

PLANNING

While one magazine is being tidied up, printed and posted, the next magazine is already in the planning stage. I pick out the articles and programmes I think will be of interest and enter them on my planner. This allows for a magazine of up to 34 pages.

Submitted material has to be read through and edited if necessary. Programmes are checked to see that they run correctly.

The articles etc. are then formatted in double column and delivered to Garry for printing. A title graphic has to be designed and drawn if this is deemed necessary. They are then cut and pasted to pages ready for copying. I have been unable to find a Desktop publishing programme which I find suitable for this job.

As the planner fills up with finished pages, I can then see if any additional material will be required.

During this process I might be writing a programme and accompanying articles

(e.g. The Small Investor) for insertion in the magazine. This process is carried out over 4 or 5 weeks and is done in the evenings or weekends or any other spare time available.

LETTERS

While all this is going on, any letter received which has an interest value to other readers is passed to Garry who retypes them (leaving out any parts deemed unnecessary). This is one reason we ask you to keep letters short and to the point unless you send them on disk. Replies are written if appropriate and in many cases a written reply is posted to the sender.

We quite often have to spend time on the phone trying to get answers to some of the queries you send us.

We close the letters file for that edition one month before publication. Any letters after the closing date are carried over to the next issue.

EDITORIAL

While all this is going on, I compile a list of subjects which I think will be of interest to readers for

my editorial. I pray something will turn up of interest but if not I usually have a whinge about something or other.

At this stage the planner should be looking quite full. I then fill the half and quarter pages with cartoons or some other filler till all the spaces are 100% full. The pages are then numbered and the contents page is compiled.

COVER

All that is now required is to design and draw a graphic for the front cover. Thinking what to use usually takes more time than the actual drawing. It would be great if I had a file full of graphic illustrations drawn and submitted by readers! What a lot of time that would save me.

PRINTING AND POSTING

We are now within two weeks of the posting date and I have to find enough time to print all the pages double sided on the photocopier, put them all in magazine form

(oh what a tedious job) and then staple the pages together. Labels are then printed and fixed to the magazines and any insert (subscription renewal notices etc.) placed between the pages. The magazines are then all placed in plastic bags and sealed ready for delivery to the post office. (This after sorting them into

individual states for the post office).

This section of the workload takes about 32 hours solid and is very tedious.

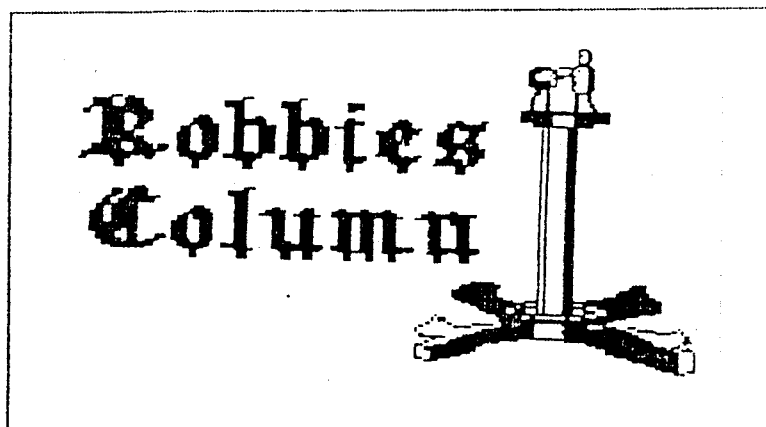
PUBLIC DOMAIN DISKS

While all that has been going on, we need to decide what, if any, programmes we will include on a PD disk for addition to the library. When a decision is made we make up the master disk and then copy a few, label them and put them aside ready for the rush of orders.

GENERAL

While all this has been going on, we have answered the phone umpteen times, made up and posted PD disks, received SOS orders from the USA and redirected them throughout Australia, phoned through new SOS orders to the states and a host of other important and unimportant items. The bank has to be visited to carry out the various transactions required to pay for the material required to produce the magazine. This material has to be ordered and collected.

I could go on forever.



This gives you an insight into what goes into producing your bimonthly COCO-LINK. As you can see, much thought and preparation goes into putting it together. It is a labour of love for us and really depends on the subscriber on how long it will last in the marketplace.

As you are aware COCO-LINK is produced on a hobby basis and is run on a non-profit making basis. The equipment used is the sole property of Garry and myself. The equipment used to produce COCO-LINK each other month is as follows:

Printer.-Epson LX800 24 pin dot matrix

Photocopier.- Canon 210

We use:

VIP Writer

COCOMAX III

ADDRESS (as found in our PD)

and various programmes written to do specific jobs.

Please continue to send in suggestions for improvement and continue to support COCO-LINK.

PIRATES (OR WHAT)?

Just recently I was asked what the situation was regarding the piracy or otherwise of Coco software.

The fact is that we are in a funny position and being here in Australia doesn't help matters. With the loss of Tandy support here and now the same happening in the USA, many producers of software for the Coco have either stopped producing or have gone out of the business altogether. For instance, Sierra no longer programme for the Coco although programmes which are no longer available for our machine can still be purchased for IBM's and AMIGA's.

This poses the question, "Are you pirating when you give a copy to your friend?"

I must stress that the following is only my personal opinion on how the dilemma should be tackled.

Firstly, to sell, give away or otherwise copy software commercially available is legally and morally dishonest and is in fact a crime.

Where ownership of software is in doubt I would personally consider copying to pass on to friends very doubtful. It should be kept in mind that even if you know that the producer of the software is no longer in business, they may have sold the copyright to some third party.

Cases like the Sierra Coco software should have been put on shareware and put on Bulletin boards. Then the copying of the software would not have been criminal and Sierra may have seen some cash back for their efforts. That is if there are enough honest people around.

My sentiments lie towards the viewpoint that if the software is unavailable, either here or in the USA, then passing on a copy of what you think is a good programme to a friend isn't such a bad thing. It may be the only way that interest in the Tandy Color Computer can be kept alive!

I also feel that selling the same software for personal gain (not counting original copies bought and paid for) is criminal.

As Mr. Fraser was once heard to say, "life wasn't meant to be easy." It is not an easy question to answer. I think it must be left to the judgement of each individual. I would be interested to hear your views on the subject.

NEW INNOVATIONS

Further to the above, in the ongoing attempt to improve COCO-LINK, you will find that some of the pages in the magazine are using a different typeface and are formatted a bit differently from our usual.

These editorial pages have been printed using the new trial format. I would be interested to hear from readers on how they find these pages for legibility and layout.

THE SMALL INVESTOR

Due to the holiday season being upon us and my need to have a holiday with my family, I have been unable to complete the 4th part of the Small Investor series. This fourth and final part will appear in the April/May edition of COCO-LINK.

Please accept my apologies for any inconvenience caused.

SUBSCRIPTION RENEWALS

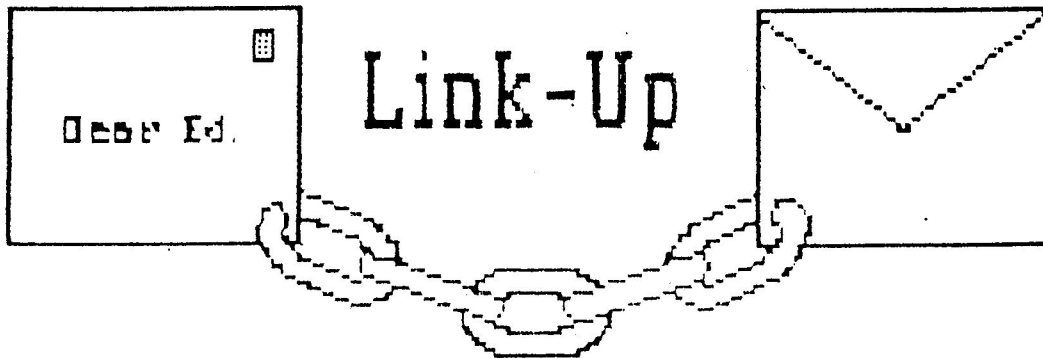
As indicated before, we depend solely on subscriptions to produce this magazine. If enough subscriptions are not forthcoming the viability of this magazine could come into question.

The bottom line is that a large percentage of renewal notices have been ignored and therefore these due subscriptions keep COCO-LINK finances in a tight position.

I realise that over the Xmas and New Year holiday period COCO-LINK is the last item in your shopping list, but please consider that we at COCO-LINK carry on through our holiday period turning out this magazine so as you will receive it at the beginning of February. It should not be too much to ask in return for you to send a cheque so as to ensure the future of this magazine.

Please, please pay subscriptions when due and ensure that you will have a magazine in the coming years.

Robbie



Dear Ed,

Yes it's time again firstly to say thank you for choosing my article as the prize winner. The programs are great, I still have to look at your letter to prove to myself that I'm not having a dream.

A friend and I have started a News-letter for our User's group (Nepean CoCo Club, formerly Riverlands); so you definitely will receive more articles, possibly a few programs (work and T.A.F.E. is my biggest problem with programming). You and your magazine will receive a mention in our News-letter (The CoCo Byte Count). Thanks for your time, and thanks again for choosing my article.

Raymond Rosch. Prestons. N.S.W.

We look forward to receiving submissions in the future. All the best for your newsletter. The annual subscription rate for COCO-LINK is \$16.00. As from the beginning of 1992 we have decided to drop the joining fee.

Dear Ed,

I agree with Fred Remin in the last issue of Link-Up. I'm certain the between user contact would in many cases be beneficial to the magazine. If anyone of us picked up an undesirable contact the warning would spread faster. It's easy to drop nuisance mail in the rubbish bin and return junk mail unopened.

I have written to Fred and was impressed with his reply. There must be more like him out there. Here's my name and address for publication:-

Sam Thompson
18 Taylor St.
Biggera Waters
Gold Coast
Qld. 4216

I agree with you whole heartedly. Still, I must uphold the privacy of those readers who so desire it.

I would be glad to hear any further comments on the subject from readers and then maybe I will be able to do something which will satisfy everyone. (Or nearly everyone).

Dear Ed,

I have just finished reading the 'Dear Ed' column, and wanted to reply to Mr & Mrs L.A. Cooper. Leichardt. N.S.W. in their request for info on the Spectrum Analyser ROM pack. I did try ringing them via directory assistance, but found they have a silent number.

Unfortunately the Spectrum Analyser ROMpack will not work on the CoCo 3, due to the fact that it uses a semi-graphics mode no longer supported by the GIME chip. If running on a CoCo 1 or 2 the commands are as follows.

D Display toggle, toggles frequency ranges displayed on the bottom of the screen.

F Fast reaction to signals in graphics mode.

G Graphics mode displays a moving bar graph of the audio spectrum.

K Kalidascope mode; lots of pretty colours to music.

P Peak toggle, toggles peak hold indicators in graphics mode.

S Slow reaction to signals in graphics mode.

Audio input is via the cassette port the 'earphone' lead on the cassette lead can be used for this purpose.

PS. In the Dear Ed article, there was mention of the phone, address etc being supplied, but these were not printed, so if they were supplied but withheld from print, Mr & Mrs Cooper might appreciate you passing this info on, rather than waiting for the next COCO-LINK to arrive; two months can be forever when you are trying to get a program up and running.

Stan Blazejewski. Parkdale. VIC.

I have explained before why COCO-LINK does not make a habit of printing the name and address of subscribers. However as this is a subject that comes up more and more often I have decided to review the situation. (See the proceeding letter).

The above information was sent on to Mr. and Mrs. Cooper on receipt.

Dear Ed,

Another year has come and gone, and I wish to thank you and all your staff for putting together a damn good magazine. I hope you keep it up for a long time.

Now my questions are:

Firstly: I have seen the Tandy CGP220 ink jet colour printer, and have a Cannon PJ1080A ink jet colour printer which looks exactly like the CGP220 except it has only parallel input and a set of DIP switches to change its international character sets.

Is it possible to change the EPROM chip and use a serial parallel interface, and run it as a CGP220?

Secondly: I read in some old U.S.A. Rainbows, some ads about JDOS and HDOS, can you tell me about them?

Thirdly: Can you tell me how to connect two CoCo's together like a NULL MODEM for data transfer, and can an I.B.M. be connected to a CoCo3 for the same purpose?

Next I would like to know how to connect a hard drive to a CoCo3, and what is needed in the way of software and hardware?

Will a hard drive work in BASIC, ML and OS9 mixed together?

After reading my friend's letter in the last mag, it brings to mind that none of the Tandy stores in Melbourne have any ads for COCO-LINK mag. I thought that Mal Williams gave the OK in an earlier article.

I would like my address printed if it can be of any help to anyone who has little knowledge of CoCo like me and is too shy to ask.

Fred and I would like to form a User's Group here in the outer eastern suburbs of Melbourne.

John McNabb.
P.O. Box 109,
Boronia. VIC 3155

JDOS was one of the first upgrades to the original RSDOS and was produced in the US by a company called J&M. It was faster, allowed for faster step rates on drives and also for the use of the second side of double sided disk drives. Plus a few other handy features. I used it for quite a few years and still have the original J&M chip. Sadly, with the advent of the Coco 3, it had some inherent memory uses which made it incompatible in many instances. I do not know whether they ever turned out a Coco 3 version. I believe the company no longer trades in the Color Computer arena.

I have never heard of HDOS.

The answer to your third question is YES. I do not have the details to hand but I am sure one of our hardware oriented readers will be forthcoming with the full answer. Hopefully one of the same people will be able to answer your printer question.

Regards the hard drive. There was an article about connecting one to Coco in the "OS9 User Newsletter" sometime back. I suggest you get in touch with them. (The address can be found in the Noticeboard page in this magazine).

In the meantime I will see if I can dig out the article and include it in COCO-LINK. Yours is not the first query on this subject.

Dear Ed,

Thanks for forwarding the October and December COCO-LINKS by airmail; there's a lot of really fine material in both, and I hope my CoCo arrives here in Holland soon so that I can settle down and try it out again.

I was glad to see Richard Schmidt's adaption of my Draw Poker, to include a scoring routine. Richard's point regarding unidentifiable variables was well taken.

Just imagine! I was back in OZ more than three years, and never knew that there was another Kenny with a CoCo out there!

Congratulations to George McIntock. I couldn't think of a more worthy recipient for the COCO-LINK Award for 1991.

I have received a copy of Tandy's catalogue for 1992; they describe themselves as "InterTAN Holland" a division of "InterTAN Canada"; wheels within wheels! They will introduce two new computers for 1992.

INTERTAN DT-286 80286 Microprocessor. 1 mb RAM drive and 16 bit connector for external 40 mg hard drive, with colour monitor and hard drive \$2,492.00

INTERTAN DT 88 8088 microprocessor 640K RAM MS-DOS 3.3 3.5" drive, 8 bit computer for 20 mb hard drive with colour monitor and hard drive \$2,064.00

The DT 88 might prove to be the way to go for the modestly ambitious programmer, a home hobby PC?

I will be interested to hear if either or both of these models will go on sale in Australia.

Keiran Kenny. The Hague. Holland.

Dear Ed,

In case of readers of COCO-LINK wish to get any disks or tapes for their Coco computer, I have been getting supplies from:

COMPUTER HUT SOFTWARE
32 George St.
Bowen, Qld 4805
Tel. 077 86 2220

Send a \$2.00 postage and they will send a catalogue of all their available stocks.

Also if you send a prepaid postage coupon to:

Stephen Miller
PO Box 5000
Penetanguishene
Ontario
Canada L0K 1P0

Requesting tapes or disks for the Coco, he has over 200 available from games to utilities.

Malcolm Reid, Ingleburn, NSW

Thank you for this information. I am sure many of our readers will be interested, especially those who still use cassette versions.

END

Labour

By R.Kenny

Costing

This programme is designed to take care of contracting monthly invoicing statements and weekly statements for those who work on an hourly rate.

The programme is self explanatory. Each step prompts you for the required information

It allows you to printout for one off payments, including a service call. Also for monthly progress payments, and a statement for hours worked in a week. It shows the hourly rate, daily hours worked, hours at time/half, double time and total owing.

```

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:CLS3:ATTR3,2:CLEAR120
0
30 CLS:LOCATE10,6:PRINT"A Contra
ct and Labour ":LOCATE20,8:PRINT
"Calculating Program":LOCATE 40,
10:PRINT"By Bob Kenny":LOCATE25,
16:PRINT"<C> Feb 1987.":FORZZ=1T
O1000:NEXT
40 CLS:LOCATE20,1:PRINT"*** Cont
ract & Labour Costs ***"
50 LOCATE 10,8:PRINT"1 -> Load C
ontract":LOCATE40,8:PRINT"2 -> L
oad Progress Payment":LOCATE10,1
0:PRINT"3 -> Load Labour File":L
OCATE40,10:PRINT"4 -> Enter Data
":LOCATE10,12:PRINT"5 -> Change
Drive":LOCATE40,12:PRINT"6 -> Pr
intout File"
60 LOCATE10,14:PRINT"7 -> Clear
Variables":LOCATE40,14:PRINT"8 -
> Delete a File":LOCATE10,16:PRI

```

```

NT"9 -> End Program":LOCATE42,16
:PRINT"Default Drive = ";DR
70 LOCATE30,18:INPUT"Your choice
--> 1 - 9 ";M:IFM<1 OR M>9 THEN
50 ELSE ON M GOTO 1050,1250,1510
,90,80,460,1770,860,940
80 CLS:INPUT"Enter Drive # 0-3";
DR:DRIVE DR:IF DR<0 OR DR>3THEN8
0 ELSE40
90 CLS:LOCATE10,10:INPUT"1 ->Con
tract 2 -> Progress 3 -> Labour"
;M:IF M<1 OR M>3THEN90 ELSE ON M
GOTO100,270,290
100 GOSUB1790:CLS:LOCATE1,14:PRI
NT"Is this the first and final a
mount./Or the final payment of a
contract Y/N"
110 K$=INKEY$:IFK$=""THEN110
120 IFK$="Y"ORK$="y"THEN130 ELSE
280
130 CLS:LOCATE22,12:PRINT"Do you
charge a service call fee Y/N"
140 K$=INKEY$:IF K$="" THEN 140
150 IF K$="Y"OR K$="y"THEN160 EL
SE 170
160 CLS:LOCATE20,12:INPUT"Enter
the amount of the Service call f
ee";SF

```



```

170 LOCATE15,16:INPUT"Enter the
full Amount of Contract Quoted P
rice";CP
180 LOCATE20,18:INPUT"Total amou
nt if any of previous payments";
PS:BL=CP-PS
190 CLS:LOCATE25,12:PRINT"Did yo
u perform additional work Y/N"
200 K$=INKEY$:IF K$=""THEN200
210 IF K$="Y"OR K$="y"THEN220 EL
SE 230
220 LOCATE25,14:INPUT"Total Amou
nt of extra work ";EW
230 CLS:LOCATE10,12:PRINT"Have y
ou any comments that you wish to
add to the Statement Y/N"
240 K$=INKEY$:IF K$=""THEN240
250 IF K$="Y"OR K$="y"THEN260 EL
SE 40
260 CLS:INPUT"Comments";CM$:GOTO
40
270 GOSUB1790:CLS:LOCATE30,2:PRI
NT"Progress Payment"
280 LOCATE25,10:INPUT"Amount of
Contract/Quoted Price";CQ:LOCATE
25,12:INPUT"Total amount of any
Previous Payments";AP:LOCATE25,1
4:INPUT"Amount of this Progress
Payment";PP:GOTO230
290 GOSUB1790:CLS:LOCATE25,1:PRI
NT"*** Labour cost ***":INPUT"Fo
r Week Ending dd/mm/yy ";W$
300 INPUT"Hourly Rate ";HR:HH=H
R
310 INPUT"Sundays Hours ";SH
:INPUT"Mondays Hours ";MH:IN
PUT"Tuesdays Hours ";TH
320 INPUT"Wednesdays Hours ";WH
:INPUT"Thursdays Hours ";TA:IN
PUT"Fridays Hours ";FH:INPUT
"Satadays Hours ";S
330 INPUT"Hours @ Time/Half ----
-- ";OT:OP=OT
340 RR=((HH/2)+HH)*OT
350 INPUT"Hours @ Double Time --
-- ";DT
360 DX=(HH*2)*DT
370 AA=SH+MH+TH+WH+TA+FH+S
380 ZZ=Ara work done as per agre
ement ";:PRINT#-2,USING"***$###
##.###";EW
740 GT=BL+EW
750 PRINT#-2,TAB(37)"Total plus
extra work ";:PRINT#-2,USING"*
*$#####.###";GT
760 GT=GT+SF:PRINT#-2:PRINT#-2:P
RINT#-2,TAB(42)"Account Rendered
";:PRINT#-2,USING"***$#####.##
";GT

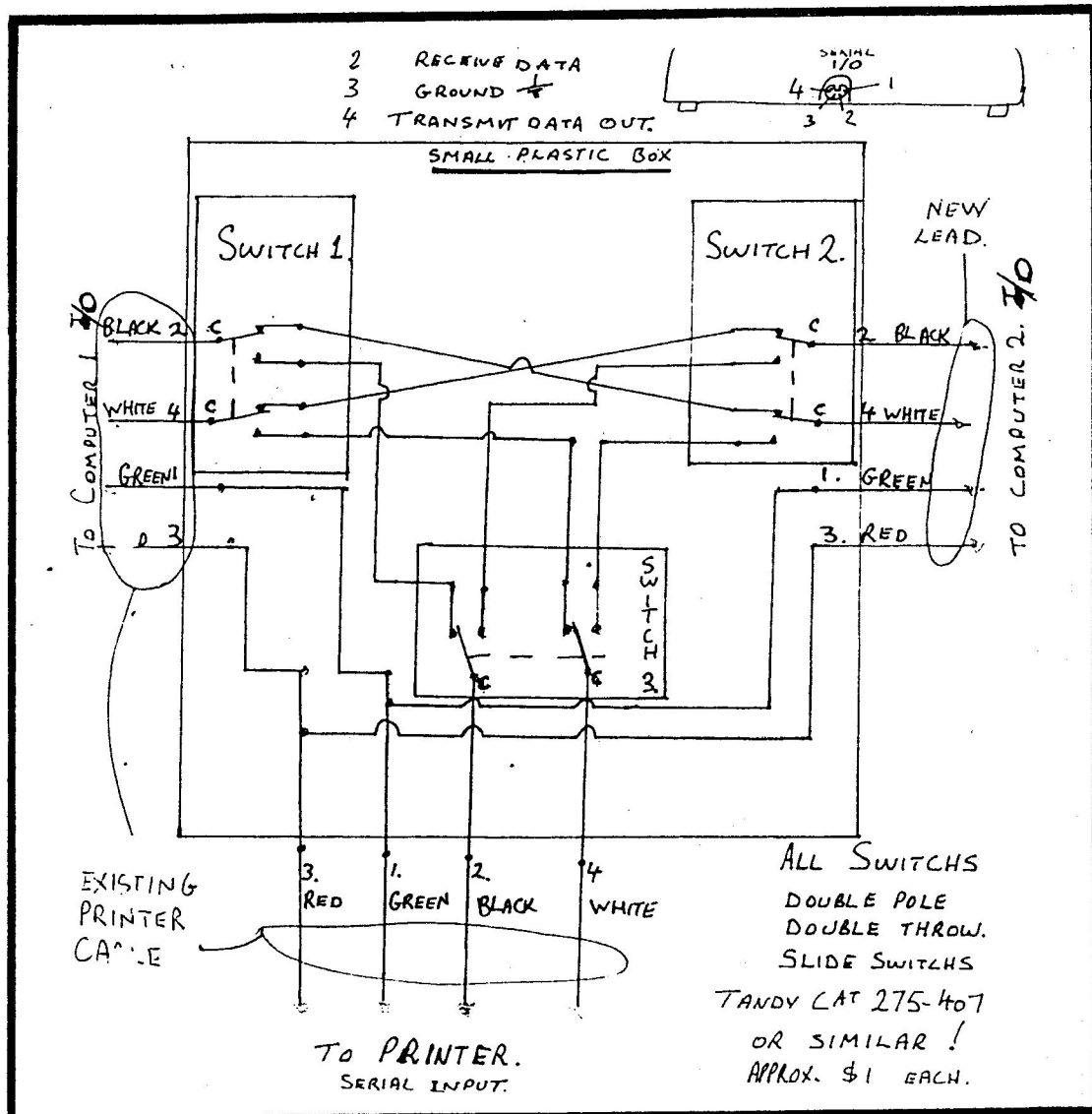
```

```

770 PRINT#-2:PRINT#-2,"Comments
";CM$:PRINT#-2
780 CLS:LOCATE25,10:PRINT"PRINT
Another Copy Y/N ?"
790 K$=INKEY$:IFK$="" THEN 790
800 IF K$="Y"OR K$="y" THEN460 E
LSE 810
810 CLS:LOCATE25,10:PRINT"Save d
ata to disk? Y/N"
820 K$=INKEY$:IF K$=""THEN820
830 IF K$="Y"OR K$="y"THEN840 EL
SE 40
840 CLS: LOCATE25,8:PRINT"Which
data file to save?":LOCATE30,10:
PRINT"1 -> CONTRACT":LOCATE 30,1
2:PRINT"2 -> PROGRESS":LOCATE30,
14:PRINT"3 -> LABOUR":LOCATE28,1
8:PRINT"YOUR CHOICE <1 - 3>";
850 INPUT M:ON M GOSUB 970,1180,
1390
860 '*** DELETE A FILE ***
870 CLS:LOCATE15,12:PRINT"Are yo
u sure you want to delete a file
? Y/N
880 K$=INKEY$:IF K$=""THEN880
890 IF K$="Y"OR K$="y"THEN900 EL
SE 40
900 CLS:LOCATE20,12:INPUT"File n
ame to kill plus extention";FF$:
KILLFF$
910 CLS:LOCATE25,12:PRINT"anothe
r one Y/N"
920 K$=INKEY$:IFK$=""THEN920
930 IF K$="Y"OR K$="y"THEN900 EL
SE40
940 CLS:LOCATE20,12:PRINT"Are yo
u sure you want to end the progr
am Y/N
950 K$=INKEY$:IF K$=""THEN950
960 IF K$="Y"OR K$="y" THEN1780
ELSE40
970 '*** SAVE CONTRACT ***
980 GOSUB1760
990 CLS:LOCATE25,12:PRINT"File n
ame of contract job to save ";:I
NPUTFF$:CZ$=FF$:FF$=FF$+" .ADC":C
Z$=CZ$+" .CNT"
1000 OPEN "O",#1,FF$:OPEN "O",#2
,CZ$
1010 WRITE#1,DD$:WRITE#1,IN
1020 WRITE#1,CN$:WRITE#1,AD$:WRI
TE#1,PC$
1030 WRITE#2,SF:WRITE#2,CP:WRITE
#2,PS:WRITE#2,BL:WRITE#2,EW:WRI
TE#2,CM$
1040 CLOSE#1,#2:GOTO40
1050 '*** LOAD"CONTRACT ***
1060 GOSUB1760
1070 CLS:LOCATE10,12:PRINT "What

```


Two Computers



By John Mc Grath

to one Printer

PUBLIC **DOMAIN** **SOFTWARE**

CF83 - 1983 Standard Forth Demonstrator

CF83 Forth System

CF83DEMO is a demonstration package for CF83 Forth. A 24 page manual is included on the floppy diskette. It can be viewed and output to your printer using the READER programme which is also included on the floppy diskette.

READER

READER will only work with the diskette exactly as it is when you receive it: if you alter it in any way, READER will no longer work. READER will not work with files on other disks.

To use READER place the disk in drive 0 and enter RUN "READER".

If you get a "Please insert disk with page # 1" message, you have a bad disk - Please return it for replacement.

After you read the opening screen, press any key to continue.

READER then displays the top third of the first page at the top of the screen and the READER Main Menu at the bottom of the screen. The upper left line of the Main Menu tells you which page you are on, and which third of the page you are viewing.

The up, down, left, and right arrows allow you to move around in the document, and the G key allows you to GO directly to a page number you specify. The G key has a slight delay before it asks you for the new page number. If you enter a page number that is outside the document's range, you will get an error message. If this happens, just press G again and enter a correct page number. The P key sends the page you are currently viewing to your printer. It sends the entire page, regardless of which third of the page you are viewing.

CAUTION: If you don't have a printer, if your printer is not connected, or if your printer is turned off, using the P, R, or D keys will jam the programme. If this happens, just turn your computer off and start again - the files will not be damaged. Don't just start the printer - the printout will not be correct.

The R key sends the range of pages that you specify to your printer, and the D key sends the entire document. The R key has a slight delay before it asks for the first page number. If you enter a page number that is outside the documents range, the programme does a diagnostic data dump to the screen. You will not be able to interpret this dump - Just turn your computer off and start over.

The S key shifts you to the Print Parameters Menu and lets you adjust the programmes print parameters to suit your particular printer. You will have to do some experimenting to find the set of parameters that are just right for your printer. Make sure that the parameters are set to your satisfaction before you attempt any "final" printing.

The keys in the Print Parameters Menu are "toggles". Repeatedly touching the key toggles through that parameter's range of allowable values:

- P lets you pause or not pause between pages
- L allows a left margin of from 0 to 11 characters
- T allows a top margin of from 0 to 7 lines
- B allows baud rates of 300, 600, 1200, 2400, 4800, or 9600
- C sets ENTER (ASCII 13) to send either a carriage return plus a line feed, or a carriage return alone.
- X returns you to the Main Menu

The X key at the main Menu returns you to BASIC

PD DISK 043 RASCAN DEMO

This disk displays graphics formed by Nikolas Marentes Rascan Digitiser. It gives you some idea of what can be achieved.

The disk has it's own picture showing routine and the graphics can be viewed as with a slide projector.

These pictures were done with the original version of Rascan. As you may have read in a previous issue of COCO-LINK, Nikolas has developed a new version of the Digitiser. This should now be available. For further details contact:

Digi-scan P.O.Box 6551 Upper Mt. Gravatt. 4122

PUBLIC **DOMAIN** **SOFTWARE**

Software

Ordering

Service

For those people who are interested in programming in different languages here is another to add to your list. This information arrived in the post from the USA and is reproduced here for your perusal. The programmes are available through the Software Ordering System (SOS).

CF83 FORTH

CF83 FORTH is a 1983 Standard Forth Operating System/programming Language for the Coco II, 128K Coco III, and 512K Coco III with at least one standard RS-DOS SSDD Floppy Disk Drive.

In keeping with the forth tradition, CF83 is available as a system of individual modules on separate disks so as you can buy what you need, ONLY what you need, and ONLY when you need it. This keeps the cost as low as possible. You are not forced to pay a big price for a big, full-featured system unless that is what you want.

To keep the costs even lower, the CF83 diskettes include their instruction manuals on disk along with a reader programme that allows you to both view the manuals on screen and output them to your printer. Hardcopy (printed) copies of the manuals are available at extra cost.

In the following price list, the number in parentheses after the product title is the number of pages in the manual. The first price is the price including a hardcopy of the manual and the second price is the price with the manual on disk only.

CF83:	Forth-83 Standard Required Words Set (8) - \$28.00/\$24.00
CF83-1:	Technical Reference Manual (29) - \$28.00/\$16.00
CF83-2:	Forth Tutorial (24) - \$26.00/\$16.00
CF83-3:	Block Editor (15) - \$30.00/\$24.00
CF83-4:	Double Number Extension Word Set (3) - \$9.00/\$8.00
CF83-5:	Assembler Extension Word Set (42) - \$24.00/\$16.00
CF83-6:	System Extension Word Set (4) - \$10.00/\$8.00
CF83-7:	Controlled Reference Words Set (25) - \$18.00/\$14.00
CF83-8:	Uncontrolled Reference Words Set (30) - \$20.00/\$16.00
CF83-9:	PMODE Graphics Words Set (15) - \$12.00/\$10.00

We realise that the above price list is rather cryptic, especially for those who are not familiar with Forth. But a full explanation would require more words than can fit in a short article such as this. We recommend you get (or borrow from your local library) a copy of Leo Brodie's STARTING FORTH, second edition, published by Prentice-Hall Inc. That book will not only give you a better understanding of what the above terms mean - we feel it is the best introduction to forth programming available anywhere.

You will notice that some of the items on the price list are not yet available. Although we are working on them as fast as we can, we will NOT set completion dates that we may not be able to meet. That would not be fair to you. However, we will advise COCO-LINK as soon as the next product becomes available.

As a help to understanding this language, BDS Software has supplied us with a demonstration disk called CF83DEMO, to add to our Public Domain Library. This disk is now available from COCO-LINK for our usual \$5.00

KING JAMES VERSION OF THE BIBLE FOR COCO.

For the christian element amongst you or those who are doing a particular study on the bible here is what you have been waiting for: The complete King James Version on disk.

CF83-10:	HMODE Graphics Words Set (18) - \$12.00/\$10.00
CF83-11:	Sound, Joysticks, Timer, and Random Number Generator Words Set (6) - \$8.00/\$6.00
CF83-12:	Word Set to allow making binary files that will EXEC directly from BASIC (6) - \$8.00/\$6.00
CF83-13:	Floating Point Numbers Word Set (16) - \$12.00/\$10.00
CF83-14:	Trigonometry Word Set (18) - \$12.00/\$10.00
CF83-15:	Complex Numbers Word Set (19) - \$12.00/\$10.00

THE KJV ON DISK FOR THE CoCo

The KJV on Disk allows you to use just about any word processor to search the King James Version of the scriptures and easily add scripture portions to sermons or other documents. The KJV is organized into pure ASCII files without any control characters. This allows you to use any word processor that supports ASCII files. You can read the files one line at a time by using the "TYPE.BAS" program if you don't have a word processor yet (NOT recommended - you really need a word processor).

The KJV on Disk is available in the following formats.

CKJV: Entire KJV Bible - 32 Disks \$130.00
 CKJVO: KJV Old Testament - 24 Disks \$95.00
 CKJVN: KJV New Testament - 8 Disks \$35.00

CKJV01: Genesis 1-29
 CKJV02: Genesis 30-50
 CKJV03: Exodus 1-21
 CKJV04: Exodus 22-40
 CKJV05: Leviticus
 CKJV06: Numbers 1-18
 CKJV07: Numbers 19-36
 CKJV08: Deuteronomy 1-29
 CKJV09: Deuteronomy 30-34, Joshua
 CKJV10: Judges, Ruth
 CKJV11: I Samuel
 CKJV12: II Samuel
 CKJV13: I Kings
 CKJV14: II Kings
 CKJV15: I Chronicles
 CKJV16: II Chronicles
 CKJV17: Ezra, Nehemiah, Esther
 CKJV18: Job
 CKJV19: Psalms 1-87
 CKJV20: Psalms 88-150

CKJV21: Proverbs to Song of Solomon
 CKJV22: Isaiah 1-37
 CKJV23: Isaiah 38-66
 CKJV24: Jeremiah 1-31
 CKJV25: Jeremiah 32-52, Lamentations
 CKJV26: Ezekiel 1-26
 CKJV27: Ezekiel 27-48
 CKJV28: Daniel to Amos
 CKJV29: Obadiah to Habakkuk
 CKJV30: Zephaniah to Malachi
 CKJV31: Matthew
 CKJV32: Mark
 CKJV33: Luke
 CKJV34: John
 CKJV35: Acts
 CKJV36: Romans to II Corinthians
 CKJV37: Galatians - II Thessalonians
 CKJV38: I Timothy to Hebrews
 CKJV39: James to III John
 CKJV40: Jude, Revelation

ALL PRICED AT

\$5.00 EACH

LABOUR COSTING CONTINUED

```

1080 OPEN "I", #1, FF$: OPEN "I", #2,
CZ$
1090 IF EOF(1)=-1 THEN 1120
1100 INPUT #1, DD$, IN$, CN$, AD$, PC$
1110 GOTO 1090
1120 IN=VAL(IN$): GOTO 1140
1130 IF EOF(1)=-1 THEN 1160
1140 INPUT #2, A$, B$, C$, DX$, E$, CM$
1150 GOTO 1130
1160 ST=VAL(A$): CP=VAL(B$): PS=VA
L(C$): BL=VAL(DX$): EW=VAL(E$)
1170 CLOSE #1, #2: GOTO 40
1180 '*** SAVE PROGRESS PAYMENT
***
1190 GOSUB 1760
1200 CLS: LOCATE 10, 12: PRINT "Enter
the name of the progress paymen
t file to save"; INPUT FF$: CZ$=FF
$: FF$=FF$+" .ADP": CZ$=CZ$+" .PRO"
1210 OPEN "O", #1, FF$: OPEN "O", #2,
CZ$
1220 WRITE #1, DD$: WRITE

```

Hardware

Two Computers

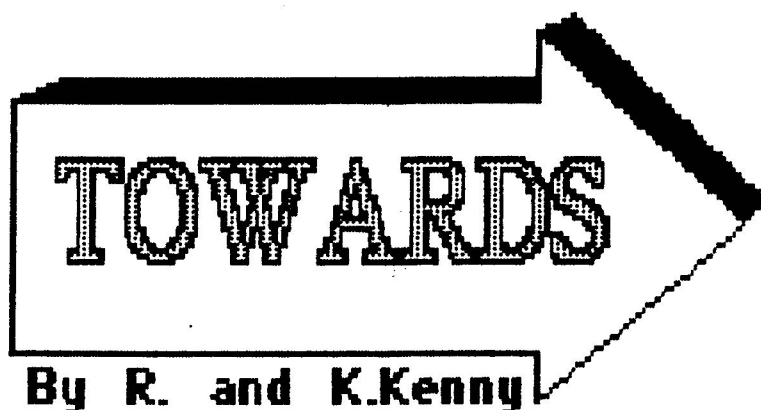
FROM PAGE 21

Some of you may have snapped up a second COCO 3 now that they have dropped from grace. Two computers and only one printer!!! Well, here is a simple hardware project on how to build a printer switching device so that you can couple the two computers together to the printer, making the following possible:

- 1) Coco No.1 to printer.
 - 2) Coco No.2 to printer.
 - 3) Coco No.1 to Coco No.2. (Without unplugging a lead).
- With the third option you need a terminal type programme, such as George McLintock's XCOM (Australian Coco Magazine April '88, or COCO-LINK PD Disk No.034).

The beauty of this device is that it is cheap! All you need is 3 DPDT slide switches (Tandy cat 275-407 or

Continued on page 25



Better BASIC Part 19

Our two articles for the Better Basic series have been submitted by K.Kenny and R.Kenny, two regular contributors to the magazine. Although they bear the same surname they are not related (I don't think so anyway).

The first article, by Mr. R.Kenny deals with the USER DEFINED FUNCTION. This is one of those functions in basic which is not used nearly as much as it should be. Hopefully this article will make things clear for you.

The second article by Mr.K.Kenny covers the subject of loops, those most useful functions which no programme could be without.

User defined Function

R.Kenny

The subroutine DEF FN is a routine that is not seen in many programmes in relation to calculations of a repetitive nature. It is a build in library function in ROM that is ideal for this kind of work and performs it with blinding speed. Some procedures are used so frequent that it is more efficient to write the routine once and call it from various lines in the programme when ever it is required

Basic allows the user to write their own functions (mathematical expressions) which are referred to as a user defined funtion. They are used in programmes where the same calculation is used a number of times, a different value may be used for each calculation

The way a DEF statement is formed is line number then the key word DEF which stands for "defined". Next is the name of the function name FNK followed by the dummy argument in parentheses, an equals sign, then a mathematical expression. eg 10 DEF FNK(M1)=K1*.621

The function must have three letters the first two have

to be FN, the third is a variable named by the user. It is a good idea to use a letter that is appropriate to the function, as in the sample programme I have used the letter K to represent kilometers. The variable after the function name is called the function argument and must be enclosed in parentheses. It must also be a simple variable, it cannot be a variable that has been subscripted. You can have up to 26 DEF statments in your program, one for each letter of the alphabet

```
10 DEF FNM(M1)=M1*1.609
20 DEF FN K(K1)=K1*.621
30 CLS
40 PRINT"MILES TO KILOMETRES (1)
   OR KILOMETRES TO MILES (2)
50 K$=INKEY$:IFK$=""THEN50
60 K=VAL(K$):ON K GOTO70,100
70 INPUT"HOW MANY MILES";M:K=FN
   M(M)
80 PRINT:PRINTM "MILES =" K "KIL
   OMETRES"
```

```

90 GOTO140
100 INPUT"HOW MANY KILOMETRES";K
110 M=FNK(K)
120 PRINT:PRINTK "KILOMETRES = "
M'= MILES"
130 K$=INKEY$
140 PRINT"ANY KEY TO CONTINUE"
150 K$=INKEY$; IFK$="" THEN150ELSE
160
160 GOTO 30

```

Loops are Useful

K.Kenny

A FOR...NEXT loop is probably most used to put a time delay into a program, but in some cases you can use a loop to perform repetitive functions that might otherwise require a lot of code. There are six examples in this short program.

The string A\$ in line 40 contains sixteen two-digit palette values. The loop in line 50 scans A\$ and pokes the values (PL) into colorslots 0 to 15 (SL) sequentially. In my example, the palette values poked into slots 1 to 7 are, in fact, the CoCo 3 default values, but if you set up a 16-value string like this it is always easy to change values as you try your program.

I have poked 0 into slot 0 because I wanted a black screen. When the HSCREEN2 statement is encountered the screen is cleared practically instantaneously in whatever color is in slot 0. Try HCLS2 after the HSCREEN2 statement. The action is noticeably slower.

The loop in line 70 draws fifteen patches colored 1 to 15. Each time through the loop the upper-left coordinate (X) is increased by 20 and the color value (SL) is increased by one.

The labels in CoCo 3's HBUFF, HGET and HPUT statements are numerical values and, in this case, these statements can also be put into loops. The short loop in line 80 reserves enough space in the hi-res buffer for fifteen 20 x 20 rectangles labelled individually 1 to 15.

Similarly, the loop in line 90 labels the patches 1 to 15 and stores them in the hi-res buffer. Line 100 puts the stored color patches onto the screen in reverse order.

Just a warning! There is a bug in CoCo 3's HGET/HPUT logic and sometimes, unexpectedly, an image you HPUT on the screen appears as garbage. This can be avoided if you ensure that the upper-left coordinates in your HGET and HPUT statements are even numbers and the right and lower coordinates are uneven numbers.

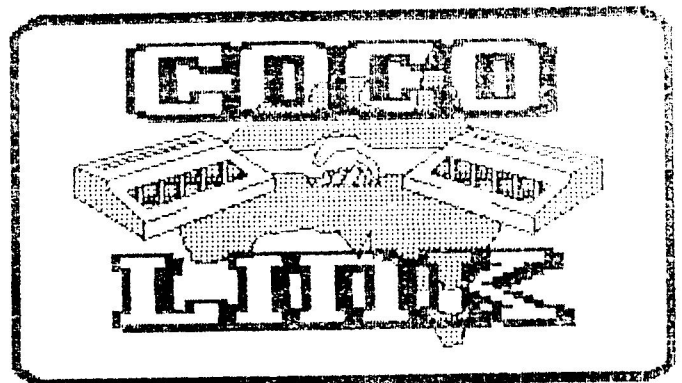
To demonstrate, the not so simple loop in lines 130 to 170 will put 100 randomly-colored patches onto the screen in random positions with no garbage. The HPOINT statement in line 150 ensures that patches are not positioned over existing patches. At the sound prompt, press any key to repeat the display.

```

0 'LOOPUSES' COPYRIGHT 1991 BY
  KEIRAN KENNY, SYDNEY
10 POKE65497,0
20 ONBRKGOTO200
30 ONERRGOTO210
40 A$="0054093663274538243340434
8525618"
50 SL=0:FORX=1TOLEN(A$)STEP2:PL=
VAL(MID$(A$,X,2)):PALETTE$SL,PL:SL=
SL+1:NEXT
60 HSCREEN2
70 SL=1:FORX=0TO280STEP20:HCOLOR
SL:HLINEX,48)-(X+19,67),PSET,BF
:SL=SL+1:NEXT
80 FORX=1TO15:HBUFFX,200:NEXT
90 G=1:FORX=0TO280STEP20:HGET(X,
48)-(X+19,67),G:G=G+1:NEXT
100 G=1:FORX=280TO0STEP-20:HPUT(X,
96)-(X+19,115),G:G=G+1:NEXT
110 HPRINT(14,23),"PRESS ANY KEY
"
120 EXEC44539:HCLS
130 FORZ=1TO100
140 X=INT(RND(300)/20)*20:Y=INT(RND(
172)/20)*20
150 IFHPOINT(X,Y)<>0THEN140
160 HPUT(X,Y)-(X+19,Y+19),RND(15
)
170 NEXT
180 SOUND128,3
190 EXEC44539:HCLS:GOTO130
200 POKE65496,0:RGB:CLS:END
210 POKE65496,0:RGB:CLS:PRINT@22
4,"ERROR#"ERNO"IN LINE"ERLIN:END

```

END



Three Little Utilities

ERNO

By Fred Remin

This program is designed for the Coco 3 with the beginner in mind. I for one remember well the frustration of continually going to the manual to find out what "BS" or "FD" means or any of the other errors which seem to crop up whenever you write your own program. In ERNO I have utilized the ON ERR, ERNO and ERLIN functions of the computer to automatically tell you what and where the error is in your program. In its present form it is very simple (because I believe in the KISS principle). However, it can very easily be enhanced to give a complete description of the error with a suggested fix. The addition of this facility of course would depend on if you require the available memory for your program.

I have set the line numbers at 0 and 1000, however if you require more line space a simple RENUM will fix that problem. If you have a program you are already working on the same fix would apply, ie RENUM the program and then merge the two. Once you have debugged your program with ERNO a simple DEL of the line numbers used by ERNO and there you have it.

I hope some people find this utility useful, feel free to enhance it as you see fit, if you come up with something really good, submit it to the magazine so we can all use it.

```

0 ON ERR GOTO1000
1 CLS:POKE65497,0:PRINT"THIS PRO
  GRAM IS DESIGNED"
2 PRINT"TO TAKE AWAY THE TEDIOUS
  JOB OF"
3 PRINT"FINDING THOSE ANNOYING
  ERRORS."
4 PRINT"SIMPLY LOAD THIS PROGRAM
  AND"
5 PRINT"THEN BEGIN TO CREATE YOU
  R OWN"

```

```

6 PRINT"PROGRAM BETWEEN THE LINE
  NUMBERS"
7 PRINT"WHEN YOU RUN YOUR PROGRA
  M"
8 PRINT"ERNO WILL TRAP ANY ERROR
  S AND":PRINT"TELL YOU WHAT AND W
  HERE THEY"
9 PRINT"ARE,ONCE YOU HAVE DEBUGG
  ED":PRINT"THEN SIMPLY DELETE THO
  SE LINES":PRINT"USED BY ERNO.":P
  RINT"START YOUR LINES AT NUMBER
  10.":POKE65496,0
1000 IF ERNO=0THENPRINT"NEXT WIT
  HOUT FOR IN LINE NUMBER:":PRINTE
  RLIN
1010 IF ERNO=1THENPRINT"SYNTAX E
  RROR IN LINE NUMBER:":PRINTERLIN
1020 IF ERNO=2THENPRINT"RETURN W
  ITHOUT GOSUB IN LINE NUMBER:":PR
  INTERLIN
1030 IF ERNO=3THENPRINT"OUT OF D
  ATA IN LINE NUMBER:":PRINTERLIN
1040 IF ERNO=4THENPRINT"ILLEGAL
  FUNCTION CALL IN LINE NUMBER:":P
  RINTERLIN
1050 IF ERNO=5THENPRINT"OVERLPOW
  IN LINE NUMBER:":PRINTERLIN
1060 IF ERNO=6THENPRINT"OUT OF M
  EMORY:":PRINTERLIN
1070 IF ERNO=7THENPRINT"UNDEFINE
  D LINE IN LINE NUMBER:":PRINTERL
  IN
1080 IF ERNO=8THENPRINT"BAD SUBS
  CRIPT IN LINE NUMBER:":PRINTERLI
  N
1090 IF ERNO=9THENPRINT"ATTEMPT
  TO REDIMENSION ARRAY IN LINE NUM
  BER:":PRINTERLIN
1100 IF ERNO=10THENPRINT"DIVISIO
  N BY ZERO IN LINE NUMBER:":PRINT
  ERLIN
1110 IF ERNO=11THENPRINT"ILLEGAL

```

```

DIRECT STATEMENT IN LINE NUMBER
:":PRINTERLIN
1120 IF ERNO=12THENPRINT"TYPE MI
SMATCH IN LINE NUMBER:":PRINTERL
IN
1130 IF ERNO=13THENPRINT"OUT OF
STRING SPACE:"
1140 IF ERNO=14THENPRINT"STRING
TO LONG IN LINE NUMBER:":PRINTER
LIN
1150 IF ERNO=15THENPRINT"STRING
FORMULA TO COMPLEX IN LINE NUMBE
R:":PRINTERLIN
1160 IF ERNO=16THENPRINT"CANNOT
CONTINUE IN LINE NUMBER:":PRINTE
RLIN
1170 IF ERNO=17THENPRINT"BAD FIL
E DATA IN LINE NUMBER:":PRINTERL
IN
1180 IF ERNO=18THENPRINT"ALREADY
OPEN IN LINE NUMBER:":PRINTERLI
N
1190 IF ERNO=19THENPRINT"DEVICE
NUMBER ERROR IN LINE NUMBER:":PR
INTERLIN
1200 IF ERNO=20THENPRINT"INPUT/O
UTPUT ERROR IN LINE NUMBER:":PRI
NTERLIN
1210 IF ERNO=21THENPRINT"BAD FIL
E MODE IN LINE NUMBER:":PRINTERL
IN
1220 IF ERNO=22THENPRINT"FILE NO
T OPEN IN LINE NUMBER:":PRINTERL
IN
1230 IF ERNO=23THENPRINT"INPUT P
AST END OF FILE IN L;INE NUMBER:
":PRINTERLIN
1240 IF ERNO=24THENPRINT"DIRECT
STATEMENT IN LINE NUMBER:":PRINT
ERLIN
1250 IF ERNO=38THENPRINT"HIRES G
RAPHICS ERROR IN LINE NUMBER:":P
RINTERLIN
1260 IF ERNO=39THENPRINT"HIGHRES
PRINT ERROR IN LINE NUMBER:":PR
INTERLIN

```

AUTOFIND

By R.Rosch

Autofind is a cassette based program which is aimed at the younger user.

Autofind asks the user to input a program name and if it should be SKIPed or CLOAded

The program then fills the screen with various colours while the coco "CHARGES UP" to maximum power. (I told you that it's aimed at the younger folk!)

Once the coco has built up enough power it does what it has been told to do.

```

5  ' +-----+-----+
    !             AUTOFIND/CAS             !
    !             (C)1985                   !
    !             BY R.W.H. ROSCH           !
    +-----+-----+
11 GOTO 20
13 A$="AUTOFIND/CAS":VERIFYON:CL
S:PRINT"**** SAVING ==>";A$;" **
**":PRINT@165,"*** PRESS ANY KEY
***":PRINT@200,"*** TO SAVE ***
":EXEC44539:SAVE A$:DIR:PRINT"GR
ANS FREE==>"FREE(0):STOP
20 PCLEAR 1
30 CLS(0)
40 ' intro/title
50 PRINT@135,"*****";
60 PRINT@167,"** AUTO FIND **";
70 PRINT@199,"** (C) 1985, **";
80 PRINT@231,"** BY **";
90 PRINT@263,"** RAYMOND **";
100 PRINT@295,"** ROSCH **";
110 PRINT@327,"*****";
120 FOR J=1 TO 3600:NEXT
130 CLS
140 PRINT"DO YOU WISH TO HAVE IN
STRUCTIONS";
150 PRINTTAB(12);"<Y OR N>"
160 GOSUB 630
170 CLS:PRINT"sKIPF OR cLOAD"
180 S$=INKEY$
190 IF S$="C" THEN GOTO 220
200 IF S$="S" THEN WO=1:GOTO 220

```

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```

210 GOTO 180
220 CLS
230 ' input file name
240 PRINT"WHAT IS THE NAME OF TH
E FILE YOU";
250 PRINTTAB(14);"WANT"
260 INPUT F$
270 IF F$="" THEN 260
280 ' flashing screen routine
290 CLS
300 PRINT@260,"BUILDING UP POWER
TO LOAD"
310 FOR J=1 TO 3000
320 NEXT
330 N=N+RND(5)
340 CLS RND(8)
350 SOUND N,1
360 IF N>250 THEN 380
370 GOTO 330
380 CLS(0)
390 ' skipf/cload routine
400 AUDIOON
410 PRINT@266,"f "F$" ";
420 PRINT@169,"searching";
430 PRINT@179,"for";
440 PRINT@10,"*****";
450 PRINT@42,"*AUTO FIND*";
460 PRINT@74,"*****";
470 IF WO=1 THEN PRINT@266,"s "F
$" ";:SKIPF F$:GOTO 490
480 IF WO<>1 THEN CLOAD F$
490 PRINT@262,"file==>";F$;" HA
S BEEN ";
500 PRINT@302," SKIPF'ED ";
510 SOUND 150,10
520 ' end routine
530 CLS:INPUT"RUN<hello>";RH$:IF
RG$<>"N" THEN RUN"hello" ELSE P
RINT@480,"END":END
540 CLS
550 PRINT"ALL YOU HAVE TO DO IS.
..."
560 PRINT TAB(7);"<1> PLUG THE A
DAPTER IN"
570 PRINT TAB(7);"<2> PUT THE TA
PE IN"
580 PRINT TAB(7);"<3> PRESS <PLA
Y>"
590 PRINT TAB(7);"<4> ENTER THE
'FILE NAME"
600 PRINT TAB(7);"<5> GO MAKE A
CUP OF TEA"
610 PRINT TAB(7);"<6> AND WAIT..
."
620 PRINT TAB(72);"PRESS A KEY"
630 ' get reply
640 IS=INKEY$:IF IS="" THEN 640
650 IF IS="Y" THEN 540
660 RETURN

```

IDENTIFY

By R.Rosch

As the name implies, this program IDENTIFIES the program it is in. I have it saved in ASCII format (i.e. 'SAVE IDENTIFY.BAS',A') so I can "MERGE" it into my finished programs.

All the typist has to do is to insert the relevant information into line 5. And when you ask yourself "Where did I get this program from?" Just "LIST 5" and there you have it: program name, (C) date, author name, page number, magazine month and year, and from which magazine. Believe me; it gets quite frustrating when you type in a large number or programs only lose track of where it came from!

Line 13 is just a save routine where the typist puts the relevant name in a\$.

Now all your programs can have their own personalize I.O. Card. Just "LIST 5" and there you have it.

```

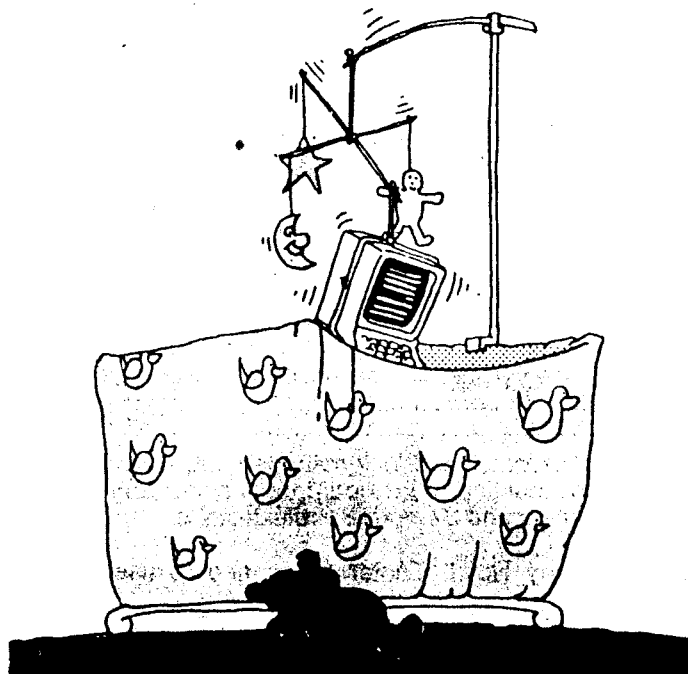
5 ' +-----+
!      ==>IDENTIFY<==
!      (C) 02/08/1987
!      BY R.W.H. ROSCH
!      PAGE NO. -- MONTH--YEAR
!      AUSTRILAN SOFTGOLD/COCO
! +-----+

```

```

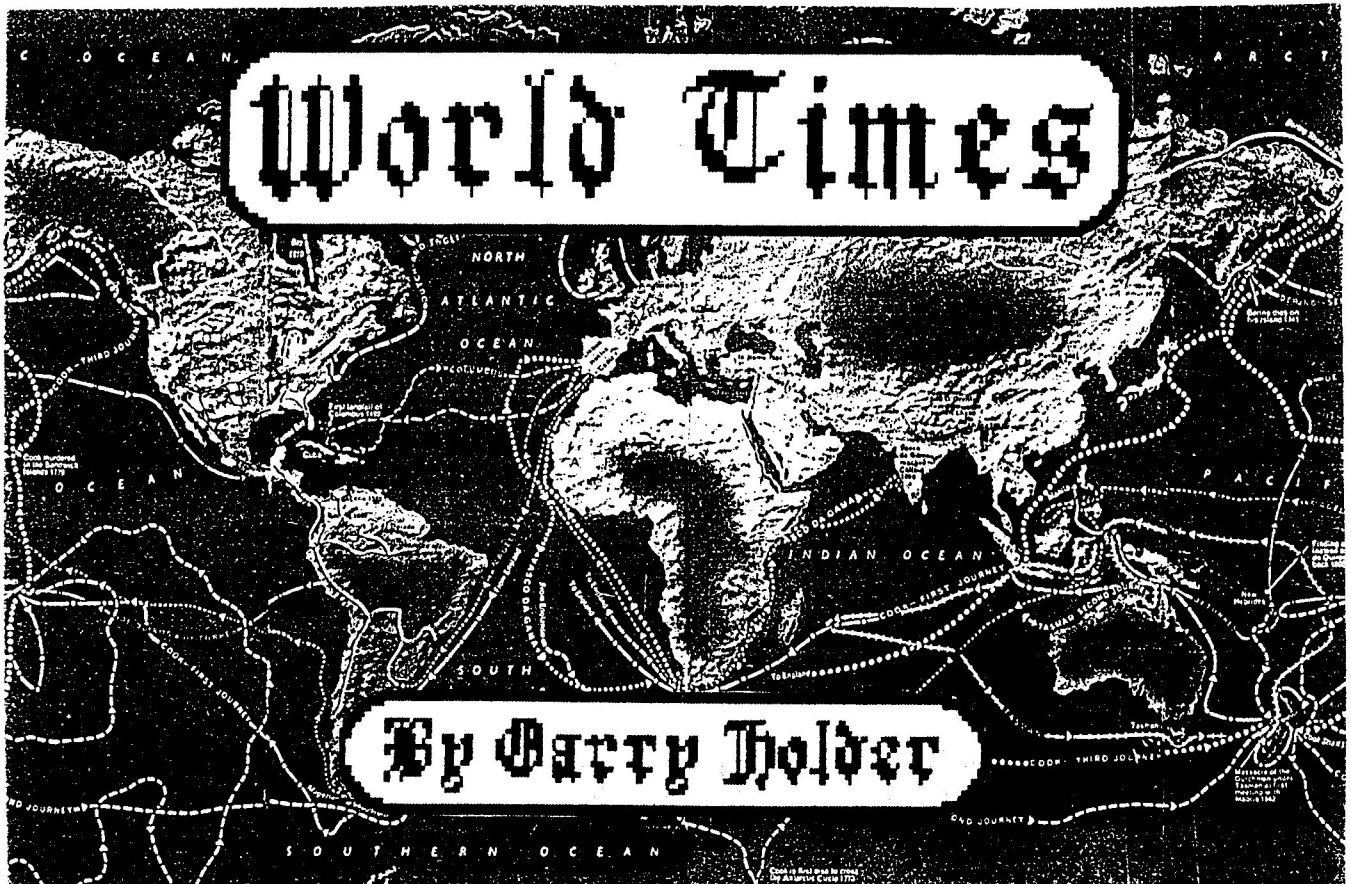
13 A$=" IDENTIFY/BAS":VERIFON:CL
S:PRINT"**** SAVING ==>";A$;" **
**":PRINT@165,"*** PRESS ANY KEY
***":PRINT@200,"*** TO SAVE ***
":EXEC44539:SAVE A$,A:DIR:PRINT"
GRANS FREE ==>";FREE(0):STOP

```



Coco 1,2&3

Application



Many of us have occasion to phone overseas for business or personal reasons. The biggest problem on these occasions is trying to phone at a time suitable for both the receiver and the sender at this end. This little programme was written to try and alleviate this awkward situation.

"World Times" has been written to give the equivalent time in 48 cities around the world working from a base time calculated from Adelaide. The times are not calculated to be exact to the minute but mainly to give you a rough idea of whether the people at the other end will be in a position to receive your call. The programme does not take into consideration daylight saving around the world and therefore times could be an hour out of kilter. Even this should give you enough leeway to prevent you from waking up some poor soul in the middle of his/her morning.

Should you live elsewhere in Australia other than Adelaide it is easy enough to add or subtract the difference to give you a reasonable approximation of the time worldwide.

The listing is as written in first draft form. There are several ways in which the length of this listing can be severely shortened but I felt that listed this way it would be easier to follow the general layout of the programme.

Please feel free to improve or add to this programme as you see fit. Any improvements should be submitted to COCO-LINK so as the rest of us can be privy to the improved product.

```

5 POKE150,87:'600 BAUD
20 'POKE149,0:POKE150,18:'2400
  BAUD
30 CLS
50 PRINT"                WORLD TIMES."
70 PRINT:PRINT
90 PRINT"AFTER ENTERING TIME FOR
  ADELAIDE THE OTHER CITIES WILL
  APPEAR,  WAIT FOR CLOCK TO RUN
  THROUGH  60 SECONDS, THEN TIMES
  WILL    APPEAR FOR CITIES.
95 PRINT:PRINT"IF NOON, THEN  U.
  S.A. CITIES    TIMES ARE DAY  BE
  FORE ADELAIDE'S DATE."
100 PRINT:PRINT"FOR PRINTOUT, PR
  ESS Y          WHEN  SECONDS ARE NEAR
  60"
110 PRINT:PRINT"PROGRAM IS SET F
  OR 600BAUD LINE 10"
150 I$=INKEY$:IFI$="" THEN150
160 CLS
200 PRINT@65,"ADELAIDE TIMES - D
  .S.T."

```

```

210 PRINT@140,"HOURS ";:INPUTX
220 PRINT@204,"MINUTES";:INPUTY
230 PRINT@268,"SECONDS";:INPUT Z
240 CLS:PRINT@64,STRING$(32,134)
;
250 PRINT@10,"ADELAIDE:";
260 PRINT@96,"AUCKLAND";:PRINT@1
12,"MELBOURNE";
270 PRINT@128,"BANGKOK";:PRINT@1
44,"MEXICO";
280 PRINT@160,"BARCELONA";:PRINT
@176,"MOSCOW";
290 PRINT@192,"BERLIN";:PRINT@20
8,"NAIROBI";
300 PRINT@224,"CAIRO";:PRINT@240
,"NEW YORK";
310 PRINT@256,"CHICAGO";:PRINT@2
72,"PARIS";
320 PRINT@288,"HAWAII";:PRINT@30
4,"ROME";
330 PRINT@320,"LONDON";:PRINT@33
6,"S FRNCSCO";
340 PRINT@352,"L ANGELES";:PRINT
@368,"SUVA";
350 PRINT@384,"MANILA";:PRINT@40
0,"TOKYO";
360 PRINT@416,STRING$(32,134)
370 PRINT@455,"PRINTOUT Y"
380 AH=X+2:AM=Y+30:MH=X+24
390 BA=X+21:MX=X+7:BR=X+14:MO=X+
16:CA=X+15:NY=X+8
400 CH=X+7:PA=X+14:HA=X+2:SF=X+5
:RM=X+14:LO=X+13:LA=X+5
410 SU=X+1:MA=X+22
420 TK=X+23
430 IF Y=>30 THEN MH=MH+1:IF Y=>
30 THEN NY=NY+1
440 IF Y=>30 THEN AH=AH+1:IF Y=
>30 THEN CH=CH+1
450 IF Y=>30 THEN BA=BA+1:IF Y=>
30 THEN PA=PA+1
460 IF Y=>30 THEN MX=MX+1:IF Y=>
30 THENLO=LO+1
470 IF Y=>30 THEN BR=BR+1:IF Y=>
30 THEN SF=SF+1
480 IF Y=>30 THEN MO=MO+1:IF Y=>
30 THEN LA=LA+1
490 IF Y=>30 THEN CA=CA+1:IF Y=>
30 THEN SU=SU+1
500 IF Y=>30 THEN HA=HA+1:IF Y=>
30 THEN MA=MA+1
510 IF Y=>30 THEN TK=TK+1
520 FOR Z=0 TO 59
530 IF AH >=24 THEN AH=AH-24
540 IF BA >=24 THEN BA=BA-24
550 IF MH >=24 THEN MH=MH-24
560 IF MX>=24 THEN MX=MX-24
570 IF BR >=24 THEN BR=BR-24
580 IF MO >=24 THEN MO=MO-24

```

```

590 IF CA >=24 THEN CA=CA-24
600 IF HA >=24 THEN HA=HA-24
610 IF NY >=24 THEN NY=NY-24
620 IF CH >=24 THEN CH=CH-24
630 IF PA >=24 THEN PA=PA-24
640 IF LO >=24 THEN LO=LO-24
650 IF SF >=24 THEN SF=SF-24
660 IF LA >=24 THEN LA=LA-24
670 IF SU >=24 THEN SU=SU-24
680 IF MA >=24 THEN MA=MA-24
690 IF TK >=24 THEN TK=TK-24
700 'FORZ=0 TO59
710 IF Z=59 THEN Y=Y+1
720 IF Y=60 THEN X=X+1
730 IF Y=60 THEN Y=0
740 IF X=24 THEN X=0
750 IF Z=59 THEN AM=AM+1
760 IF AM =60 THEN AH=AH+1
770 IF AM =60 THEN MH=MH+1
780 IF AM =60 THEN HA=HA+1
790 IF AM =60 THEN BA=BA+1
800 IF AM =60 THEN MX=MX+1
810 IF AM =60 THEN BR=BR+1
820 IF AM =60 THEN MO=MO+1
830 IF AM =60 THEN CA=CA+1
840 IF AM =60 THEN NY=NY+1
850 IF AM =60 THEN CH=CH+1
860 IF AM =60 THEN PA=PA+1
870 IF AM =60 THEN LO=LO+1
880 IF AM =60 THEN SF=SF+1
890 IF AM =60 THEN LA=LA+1
900 IF AM =60 THEN SU=SU+1
910 IF AM =60 THEN MA=MA+1
920 IF AM =60 THEN TK=TK+1
930 IF AM>=60 THEN AM=AM-60
940 PRINT@23,X;
950 PRINT@26,Y;
960 PRINT@29,Z
970 NEXTZ
980 FOR K=124 TO 412 STEP32
990 FOR P=108 TO 396 STEP32
1000 PRINT@P,AM;
1010 PRINT@K,AM;
1020 NEXT P
1030 NEXTK
1040 PRINT@105,AH;:PRINT@121,MH;
1050 PRINT@137,BA;:PRINT@153,MX;
1060 PRINT@169,BR;:PRINT@185,MO;
1070 PRINT@201,BR;:PRINT@217,MO;
1080 PRINT@233,CA;:PRINT@249,NY;
1090 PRINT@265,CH;:PRINT@281,PA;
1100 PRINT@297,HA;:PRINT@313,PA;
1110 PRINT@329,LO;:PRINT@345,SF;
1120 PRINT@361,LA;:PRINT@377,SU;
1130 PRINT@393,MA;:PRINT@409,TK;
1140 'PRINT@485,"PRINTOUT Y"
1150 IS=INKEY$:IF IS="Y" THEN 11
70
1160 GOTO520

```


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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 programme 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.)

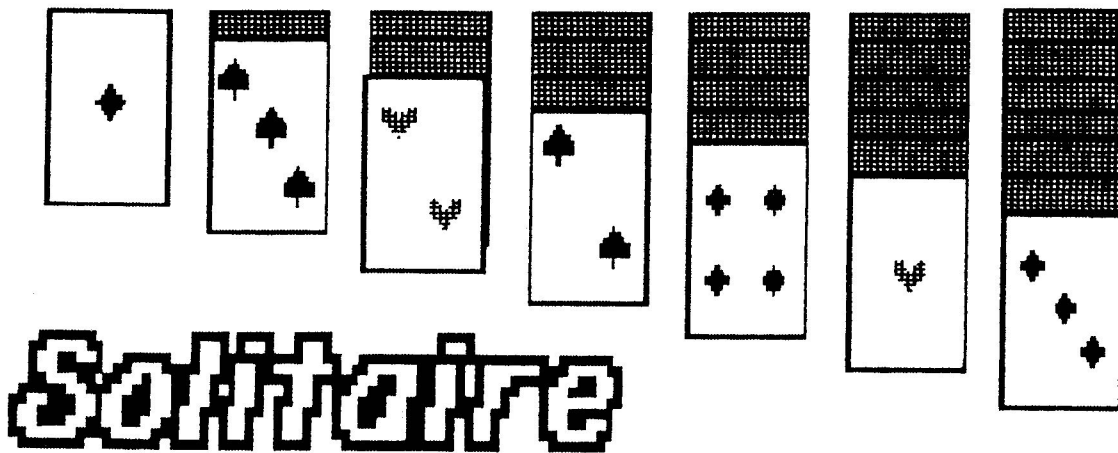
HINTS AND TIPS:
 Hand written or typed is acceptable.

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.

Coco 3

Game



ADAPTED BY RICHARD SCHMIDT

"SOLITAIRE" is a computer version of an old favourite (of mine, anyway) card game whose object is to put shuffled playing cards back into order.

Twenty-eight cards are dealt into seven columns, with an increasing number of cards in each column (1 card in column 1, 2 in column 2, etc.). The rest of the cards are placed into a stack (labelled in this game as "the top stack"), to be turned over as needed.

The game is played by placing cards of opposite suits on top of each other, in decreasing order. (ie. A 5 of either spades or clubs may go on top of a 6 of diamonds. This is also true for a 6 of hearts.)

If, after placing a card from one column-stack onto another, an empty column is revealed, the only card(s) that will go there is a King of any suit.

Eventually (if you are lucky), you will finish up with four top piles (in their respective suits), ordered from Ace through to King.

I first saw this game in the February, 1987 edition of "Australian Rainbow". In this game, (written for 16K Extended Color BASIC) each card has two characters across its top - the number of the card (eg. A, 2, 3, J, Q, etc.), and the name of the suit (S, C, H, or D). It also has a diagram of the suit (if it was a "black" suit, it was filled in (spades or clubs), just an outline if it was not). The numbers at the bottom of the screen are the column numbers, used to move a card from one column-stack to another (right arrow), from a column-stack up to the top piles (up arrow), or from the top stack to a column-stack (down arrow). Use the left arrow to move a card from the top stack to the top piles (eg. an Ace).

I have made the following changes: converting all CoCo commands to their CoCo3 equivalents, colouring the

diamonds & hearts red, giving the cards a blue outline, changing the cards in the top-stack over one at a time (to make the game initially easier to play), and adding a joystick card-direction routine (for those who like to sit back from the keyboard while playing).

Unfortunately, having the joystick routine superimposed upon the keyboard (INKEY\$) routine has made the game a little slow. Perhaps someone else can look at improving this part of the game.

5 REM "SOLITAIRE" - from "AUSTRALIAN RAINBOW", February, 1987

7 REM Modified for the CoCo3 and for Joystick use by Richard Schmidt

10 POKE&H143,0:POKE&H13E,0' B-DO

S / CoCo3 compatability pokes

15 POKE 65497,0' High-speed poke

20 CLEAR

25 RGB

30 DIM DECK(52),COL(7,20),C\$(4),
S\$(4),N\$(14),YC(7),STACK(4):R=RN
D(-TIMER):R=RND(TIMER):FC=2:BC=4
:SL=1

35 ON BRK GOTO 998

40 GOSUB 870:GOTO275

45 REM Card direction routines

50 REM If Dual-button Joysticks

are not available, then change B

1=BUTTON(1) to B1=BUTTON

(2) and connect 2 Joysticks

55 J0=JOYSTK(0):J1=JOYSTK(1):B0=

BUTTON(0):B1=BUTTON(1)

60 IF J0<15 AND (J1>15 AND J1<45

) AND B0=0 THEN N\$=CHR\$(8):RETUR

N' Left arrow


```

65 IF J0>45 AND (J1>15 AND J1<45
) AND B0=0 THEN N$=CHR$(9):RETUR
N' Right arrow
70 IF (J0>15 AND J0<45) AND (J1>
0 AND J1<15) AND B0=0 THEN N$=CHR
$(94):RETURN' Up arrow
75 IF (J0>15 AND J0<45) AND J1>4
5 AND B0=0 THEN N$=CHR$(10):RETUR
N' Down arrow
80 IF (J0>15 AND J0<45) AND (J1>
15 AND J1<45) AND (B0=1 AND B1=0
) THEN N$=CHR$(32):RETURN' Flip
card(s)
85 IF (B0=1 AND B1=1) THEN N$="Q
":RETURN' Quit (& restart)
90 IN$=INKEY$: IF IN$="" THEN 55 ELSE
N$=IN$:RETURN
95 NU=1:REM Numerical entry rout
ine
100 REM If Dual-button Joysticks
are not available, then change
B1=BUTTON(1) to B1=BUTTO
N(2) and connect 2 Joysticks
105 J0=JOYSTK(0):B0=BUTTON(0):B1
=BUTTON(1)
110 IF J0<15 THEN NU=NU-1: IF NU<
1 THEN NU=7
115 IF J0>45 THEN NU=NU+1: IF NU>
7 THEN NU=1
120 FOR X=1 TO 7
125 POS$=STR$(34+(X-1)*38):PX$(X)
=RIGHT$(POS$,LEN(POS$)-1)
130 IF X>1 THEN 145
135 IF X=NU THEN HDRAW"BM"+PX$(1)
+", 190; C3; XN$(14);":GOTO155
140 HDRAW"BM"+PX$(1)+", 190; C2; XN
$(14);":GOTO155
145 IF X=NU THEN HDRAW"BM"+PX$(N
U)+", 190; C3; XN$(NU);":GOTO155
150 HDRAW"BM"+PX$(X)+", 190; C2; XN
$(X);"
155 NEXT X
160 IF B0=1 AND B1=0 AND NU>1 THEN H
DRAW"BM"+PX$(NU)+", 190; C2; XN$(NU
);":N$=RIGHT$(STR$(NU),1):NU=0:R
ETURN
165 IF B0=1 AND B1=0 THEN HDRAW"BM"
+PX$(1)+", 190; C2; XN$(14);":N$=R
IGHT$(STR$(NU),1):NU=0:RETURN
170 IF B0=1 AND B1=1 THEN N$="Q":R
ETURN
175 IN$=INKEY$: IF IN$="" THEN 105 E
LSE N$=IN$:RETURN
180 HCOLOR BC:HLINE(258,9)-(270,
32),PSET,BF:HCOLOR FC:N1=INT(D/1
0):N2=D-N1*10: IF N2=1 THEN N2=14
185 IF N1=1 THEN N1=14
190 IF N1=0 THEN 195 ELSE HDRAW"BM2
58,32;XN$(N1);BR4XN$(N2);":RETUR
N
195 HDRAW"BM258,32;XN$(N2);":RET
URN
200 IF CARD<14 THEN RANK=CARD:SUI
T=1:RETURN
205 IF CARD<27 THEN RANK=CARD-13:
SUIT=2:RETURN
210 IF CARD<40 THEN RANK=CARD-26:
SUIT=3:RETURN
215 RANK=CARD-39:SUIT=4:RETURN
220 HLINE(XC,YC)-(XC+11,YC+1),PS
ET,B:RETURN
225 HCOLOR BC:HLINE(220,0)-(252,
39),PSET,BF:HCOLOR FC:RETURN
230 HCOLOR BC:HLINE(XC,YC)-(XC+3
2,YC+39),PSET,BF:HCOLOR FC:RETUR
N
235 IF SUIT=2 OR SUIT=4 THEN DC$
=";C8;" ELSE DC$=";C3;"
240 HLINE(XC,YC)-(XC+32,YC+39),P
SET,B:X1$=STR$(XC+5):X2$=RIGHT$(
X1$,LEN(X1$)-1):Y1$=STR$(YC+8):Y
2$=RIGHT$(Y1$,LEN(Y1$)-1):HDRAW"
BM"+X2$+", "+Y2$+DC$+"XN$(RANK);"
:X3$=STR$(XC+24):X4$=RIGHT$(X3$,
LEN(X3$)-1):Y3$=STR$(YC+8):Y4$=R
IGHT$(Y3$,LEN(Y3$)-1)
245 HDRAW"BM"+X4$+", "+Y4$+DC$+"X
S$(SUIT);":X5$=STR$(XC+17):X6$=R
IGHT$(X5$,LEN(X5$)-1):Y5$=STR$(Y
C+32):Y6$=RIGHT$(Y5$,LEN(Y5$)-1)
:HDRAW"BM"+X6$+", "+Y6$+DC$+"XC$(
SUIT);C"+RIGHT$(STR$(FC),1)
250 IF SUIT=2 OR SUIT=4 THEN HPA
INT(XC+11,YC+22),8,8 ELSE HPAINT
(XC+11,YC+22),3,3
255 RETURN
260 IF COL(F,1)=0 OR COL(F,2)=0
THEN 265 ELSE RETURN
265 HCOLOR BC:HLINE(XC,43)-(XC+3
2,44),PSET,B:HCOLOR FC:RETURN
270 XC=185:YC=1:GOSUB230:HDRAW"B
M194,20;U6F4D2U6BR5R2FD4GL2HU4E"
:FORN=1 TO 500:NEXT:GOSUB230:GOTO3
90 "NO"
275 PALETTE 1,63:PALETTE 0,0:HSC
REEN4:HCLS1:HCOLOR2,1:HPRINT(20,
1),"***** SOLITAIRE *****"
280 HPRINT(2,3),"Move all cards
to their respective top-piles to
win."
285 HPRINT(2,5),"PRESS:--"
290 HPRINT(3,6),"Spacebar, or":H
COLOR3:HPRINT(16,6),"red":HCOLOR
2:HPRINT(20,6),"Joystick button
to display the next card in the
Top-stack."
295 HPRINT(2,7)," (Every 3rd card
if you have won last time)."

```

```

300 HPRINT(3,8),"Down arrow and
Column number, or Joystick down,
then to either side"
305 HPRINT(2,9),"to move a card
from the Top-stack to a Column-s
tack."
310 HPRINT(3,10),"Left arrow, or
Joystick left to move a card fr
om the Top-stack"
315 HPRINT(2,11),"to its respect
ive Top-pile."
320 HPRINT(3,12),"Up arrow and C
olumn number, or Joystick up, th
en to either side"
325 HPRINT(2,13),"and":HCOLOR3:H
PRINT(6,13),"red":HCOLOR2:HPRINT
(10,13),"Joystick button to move
a card from a Column-stack"
330 HPRINT(2,14),"to its respect
ive Top-pile."
335 HPRINT(3,15),"Right arrow an
d Column numbers, or Joystick ri
ght, then to either side"
340 HPRINT(2,16),"and":HCOLOR3:H
PRINT(6,16),"red":HCOLOR2:HPRINT
(10,16),"Joystick button to move
a card from Column-stack to Col
umn-stack."
345 HPRINT(3,18)," 'Q', or both J
oystick buttons together to quit
(and restart) at any time."
350 HPRINT(3,19),"<BREAK> at any
time to return to BASIC."
355 HPRINT(18,22)," (Deck being s
huffled)."
360 FORI=1TO4:STACK(I)=0:NEXT:FO
RI=1TO7:YC(I)=45:FORJ=1TO20:COL(
I,J)=0:NEXT:NEXT
365 FORI=1TO52:DECK(I)=I:NEXT:FO
RI=1TO51:J=RND(52):N=DECK(J):DEC
K(J)=DECK(I):DECK(I)=N:NEXT:HLIN
E(145,173)-(315,185),PRESET,BF:H
PRINT(6,22)," Press <ENTER> or":
HCOLOR3:HPRINT(24,22),"red":HCOL
OR2:HPRINT(28,22),"Joystick butt
on.":GOSUB45
370 HSCREEN2:HCOLOR FC,BC:HCLS(B
C)
375 HDRAW"BM34,190;XN$(14);":J=3
4:FORI=2TO7:J=J+38:X7$=STR$(J):X
8$=RIGHT$(X7$,LEN(X7$)-1):HDRAW"
BM"+X8$+" ,190"+"XN$(I);":NEXT
380 J=0:K=24:FORI=1TO7:J=J+1:FOR
N=1TO J:K=K+1:COL(I,N)=DECK(K):
DECK(K)=-1:NEXT:NEXT:XC=-16:YC=4
5:FORI=1TO7:CARD=COL(I,I):GOSUB2
00:XC=XC+37:GOSUB235:IF I=1THEN
NEXT ELSE HLINE(XC,43)-(XC+32,44
),PSET,B:NEXT
385 CARD=DECK(SL):GOSUB200:XC=22
0:YC=0:GOSUB235:D=SL:GOSUB180
390 XC=185:YC=1:GOSUB230:IF STAC
K(1)+STACK(2)+STACK(3)+STACK(4)=
52THEN405ELSE XC=186:YC=15:GOSUB
220
395 GOSUB 55:ON INSTR("Q"+CHR$(3
2)+CHR$(10)+CHR$(9)+CHR$(94)+CHR
$(8),N$) GOTO 20,415,525,640,455
,855,395,395
400 GOTO 395
405 HDRAW"BM110,110;F4NE4D6BR10H
2U6E2R4F2D6G2NL4BR9H2U8BR8D8G2NL
3BR3BE10D7F3E2F2E3U7BR7D10BR7U10
F8D2U10":SL=3:GOSUB45:GOTO275' "
YOU WIN"
410 REM Start of 'SPACE BAR'
415 HDRAW"BM187,13;E4NL4NH4NU4NE
4NR4NF4D4":XC=220:YC=0:GOSUB230
420 IF DECK(1)=-1THEN270
425 D=D+SL:IF DECK(D)>0THEN445
430 IF SL=3 THEN D=D-1:IF DECK(D
)>0THEN445
435 IF SL=3 THEN D=D-1
440 IF DECK(D)<0THEN D=0:XC=220:
YC=0:GOSUB230:GOTO420
445 CARD=DECK(D):GOSUB200:XC=220
:YC=0:GOSUB235:GOSUB180:GOTO390
450 REM Start of 'UP ARROW'
455 HDRAW"BM190,13;U5L2E4F4L2D5L
4":XC=203:YC=15:GOSUB220
460 GOSUB95:IF N$="Q"THEN390ELSE
IF N$<"1"OR N$>"7"THEN460
465 F=VAL(N$):IF COL(F,1)=0THEN2
70
470 IF F=1THEN F=14
475 I=20:HDRAW"BM206,13;C3;XN$(F
);":IF F=14THEN F=1
480 I=I-1:IF COL(F,I)=0THEN480EL
SE CARD=COL(F,I):GOSUB200
485 IF RANK<>STACK(SUIT)+1THEN27
0
490 STACK(SUIT)=STACK(SUIT)+1:XC
=SUIT*38-4:YC=0:GOSUB230:GOSUB23
5
495 XC=F*37-16:YC=YC(F):GOSUB230
500 COL(F,I)=0:IF YC(F)>45THEN Y
C(F)=YC(F)-9
505 GOSUB260
510 IF COL(F,1)=0THEN YC=45:GOSU
B230:GOTO390
515 CARD=COL(F,I-1):GOSUB200:YC=
YC(F):GOSUB235:GOTO390
520 REM Start of 'DOWN ARROW'
525 HDRAW"BM192,13;H4R2U5R4D5R2G
4":IF DECK(1)=-1THEN270
530 CARD=DECK(D):GOSUB200:IF RAN
K<>1THEN565
535 GOSUB 225

```

```

540 STACK(SUIT)=STACK(SUIT)+1:XC
=SUIT*38-4:YC=0:GOSUB230:GOSUB23
5
545 IF D=0THEN445
550 I=D:D=D-1:CARD=DECK(D):GOSUB
200:XC=220:YC=0:GOSUB180:IF D>0T
HEN GOSUB235
555 IF DECK(I+1)=-1THEN DECK(I)=
-1:GOTO390
560 DECK(I)=DECK(I+1):I=I+1:GOTO
555
565 XC=203:YC=15:GOSUB220
570 GOSUB95:IF N$="Q"THEN390ELSE
IF N$<"1"OR N$>"7"THEN570
575 F=VAL(N$):IF F=1THEN F=14
580 HDRAW"BM206,13;C3;XN$(F);":I
F F=14THEN F=1
585 IF RANK=13AND COL(F,1)<>0THE
N270
590 IF RANK=13 AND COL(F,1)=0THE
N GOSUB225:COL(F,1)=DECK(D):XC=F
*37-16:YC=YC(F):GOSUB235:GOTO545
595 C1=RANK:S1=SUIT:I=20
600 IF COL(F,1)=0THEN270
605 I=I-1:IF COL(F,I)=0THEN605
610 CARD=COL(F,I):GOSUB200:N=SUI
T+2:IF N>4THEN N=N-4
615 IF N=S1 OR SUIT=S1 THEN 270
620 IF C1<>RANK-1 THEN 270
625 GOSUB225
630 YC(F)=YC(F)+9:XC=F*37-16:YC=
YC(F):GOSUB230:COL(F,I+1)=DECK(D
):CARD=DECK(D):GOSUB200:GOSUB235
:GOTO545
635 REM Start of 'RIGHT ARROW'
640 HDRAW"BM187,11;U4R5U2F4G4U2L
5":XC=203:YC=15:GOSUB220
645 GOSUB95:IF N$="Q"THEN390ELSE
IF N$<"1"OR N$>"7"THEN645
650 F=VAL(N$):IF F=1THEN F=14
655 HDRAW"BM206,13;C2;XN$(F);":I
F F=14THEN F=1
660 XC=185:YC=30:GOSUB220
665 GOSUB95:IF N$="Q"THEN390ELSE
IF N$<"1"OR N$>"7"THEN665
670 T=VAL(N$):IF T=1THEN T=14
675 HDRAW"BM189,28;C3;XN$(T);":I
F T=14THEN T=1
680 J=20:IF COL(T,1)=0THEN790
685 J=J-1:IF COL(T,J)=0THEN685
690 CARD=COL(T,J):GOSUB200:HRANK
=RANK:HSUIT=SUIT:HYC=YC(F):HJ=J:
I=20
695 I=I-1:IF I=0THEN270
700 IF COL(F,I)=0THEN695
705 CARD=COL(F,I):GOSUB200:IF HR
ANK=RANK+1 THEN 720
710 I=I-1:IF I=0THEN270
715 HYC=HYC-9:IF HYC=36THEN270EL
SE705
720 N=SUIT+2:IF N>4THEN N=N-4
725 IF N=HSUIT OR SUIT=HSUIT THE
N 270
730 HI=I:YC(F)=HYC
735 J=J+1:COL(T,J)=COL(F,I):COL(
F,I)=0:I=I+1:IF COL(F,I)>0THEN73
5
740 I=HI:XC=F*37-16:IF COL(F,1)=
0THEN HCOLOR BC:HLIN(XC,45)-(XC
+32,183),PSET,BF:HCOLOR FC
745 GOSUB260
750 IF HYC>45THEN YC(F)=HYC-9
755 HCOLOR BC:HLIN(XC,HYC)-(XC+
32,183),PSET,BF:HCOLOR FC:I=20
760 I=I-1:IF I=0THEN YC(F)=45:YC
=45:GOSUB230:GOTO775
765 IF COL(F,I)=0THEN760
770 CARD=COL(F,I):GOSUB200:YC=YC
(F):GOSUB235
775 J=HJ:YC(T)=YC(T)-9:XC=T*37-1
6
780 IF COL(T,J)=0THEN390
785 YC(T)=YC(T)+9:CARD=COL(T,J):
GOSUB200:YC=YC(T):GOSUB230:GOSUB
235:J=J+1:GOTO780
790 I=20:HYC=YC(F)
795 I=I-1:IF I=0THEN270
800 IF COL(F,I)=0THEN795
805 CARD=COL(F,I):GOSUB200:IF RA
NK=13 THEN 820
810 I=I-1:IF I=0THEN270
815 HYC=HYC-9:IF HYC=36THEN270EL
SE805
820 YC(T)=45:YC(F)=45:HI=I:J=0:X
C=F*37-16:HCOLOR BC:HLIN(XC,45)
-(XC+32,183),PSET,BF:HCOLOR FC:X
C=T*37-16:YC=45
825 J=J+1:COL(T,J)=COL(F,I):COL(
F,I)=0:CARD=COL(T,J):GOSUB200:GO
SUB235:I=I+1:IF COL(F,I)=0THEN83
0ELSE YC(T)=YC(T)+9:YC=YC(T):GOS
UB230:GOTO825
830 XC=F*37-16:I=HI-1:IF COL(F,1
)=0THEN YC=45:GOSUB230:GOSUB265:
GOTO390
835 IF COL(F,2)=0THEN GOSUB265
840 CARD=COL(F,I):GOSUB200:YC=YC
(F):GOSUB235
845 I=I+1:IF COL(F,I)=0THEN390EL
SE COL(F,I)=0:GOTO845
850 REM Start of 'LEFT ARROW'
855 HDRAW"BM191,13;H4E4D2R5D4L5D
2":IF DECK(1)=-1THEN270
860 CARD=DECK(D):GOSUB200:IF RA
NK=STACK(SUIT)+1THEN535ELSE270
865 REM Character sets
870 N$(0)="BUU4ER2FD4GL2H"
871 N$(1)="U4E2F2D2L3R3D2"
872 N$(2)="BU5ER2FDGL2GD2R4"
873 N$(3)="BR3L2HBU4ER2FDGLRFDG"

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874 N$(4)="BR3U6G3DR4"
875 N$(5)="BR3L2HBU5R4L4D2R3FD2G
"
876 N$(6)="BR3L2HU4ER2FBD2BL3R2F
DG"
877 N$(7)="BU6R4DG3D2"
878 N$(8)="BR3L2HUEHUER2FDGL2R2F
DG"
879 N$(9)="BUFR2EU2L3HUER2FD4"
880 N$(10)="R2LU5LRUBR5R2FD4GL2H
U4E"
881 N$(11)="UDR3U6L2R4"
882 N$(12)="BR1HU4ER2FD4GLBUF2"
883 N$(13)="U6BR4G3F3"
884 N$(14)="R2LU6DLRBRBD5"
890 '
891 S$(1)="U6D3R4U3D6"
892 S$(2)="BR3EGL2HU4ER2FBB"
893 S$(3)="U6R3FD4GL3"
894 S$(4)="BU1FR2EUHL2HUER2F"
900 '
901 C$(1)="HUH2UH2UH2UHU3EUE2R3F
2E2R3F2DFD3GDG2DG2DG2DG"
902 C$(2)="L3ER2HU5G3L3H2U3E2R3F
EH2U3E2R3F2D3G2FER3F2D3G2L3H3D5F
2L2"
903 C$(3)="H3UH2UH3E3UE2UE3F3DF2
DF3G3DG2DG3"
904 C$(4)="L2EU7G3L2H2U4EUE7F7DF
D4G2L2H3D7FL2"
910 RETURN
997 REM <BREAK> (& return to BAS
IC)
998 POKE 65496,0:PALETTE RGB:WID
TH32
999 PRINTTAB(7);"THANKS FOR PLAY
ING":PRINT:PRINTTAB(8);"S O L I
T A I R E":PRINT:PRINTTAB(12);"G
OODBYE":PRINT

```

END

WORLD TIMES CONTINUED

```

1170 PRINT#-2,"ADELAIDE:":PRINT
#-2,X;Y;Z
1180 PRINT#-2
1190 PRINT#-2,"AUCKLAND";AH;AM:P
RINT#-2,"MELBOURNE";MH;AM
1200 PRINT#-2,"BANGKOK";BA;AM:PR
INT#-2,"MEXICO";MX;AM
1210 PRINT#-2,"BARCELONA";BR;AM:
PRINT#-2,"MOSCOW";MO;AM
1220 PRINT#-2,"BERLIN";BR;AM:PRI
NT#-2,"NAIROBI";MO;AM
1230 PRINT#-2,"CAIRO";CA;AM:PRIN
T#-2,"NEW YORK";NY;AM
1240 PRINT#-2,"CHICAGO";CH;AM:PR
INT#-2,"PARIS";PA;AM
1250 PRINT#-2,"HAWAII";HA;AM:PRI
NT#-2,"ROME";RO;AM
1260 PRINT#-2,"LONDON";LO;AM:PRI
NT#-2,"S FRNCSCO";SF;AM
1270 PRINT#-2,"L ANGELES";LA;AM:
PRINT#-2,"SUVA";SU;AM
1280 PRINT#-2,"MANILA";MA;AM:PRI
NT#-2,"TOKYO";TK;AM
1290 GOTO520
1300 'AH=AUCKLAND HRS; AM=AUCKLA
ND MINUTES.
1310 'AM IS MINUTES FOR ALL CITI
ES LISTED, AS ALL HAVE SAME MINU
TES.
1320 'X=ADELAIDE'S HOURS, ALL OT
HER CITIES HRS ADDED TO X
1330 'TOKYO IS HALF HOUR BEHIND,
BUT I HAVE ADDED 23 TO X RATHER
THAN SUBTRACT 30 MIN
1340 'LINE 1220 BERLIN AND NAIRO
BI HAVE SAME VARIABLE OF BARCELO
NA AND MOSCOW
1350 ' LINES 1190-1280 GIVE CITI
ES AND HOUR/MIN VARIABLES.

```

END

TWO COMPUTERS CONTINUED

similar) costing approximately \$1.50 each, a small plastic box (\$4.00), one 4 pin DIN plug (\$2.00 - \$3.00), and a short peice of cable with four wires of any colour (\$2.00). Total approximately \$12.00.

First of all, disconnect all 240 volt leads and the printer lead. Depending on where you put the computers and the printer, all you need to do is cut the existing printer cable and connect the wires as per the diagram, fit the switches to the plastic box, fit the new DIN plugs (comp1, comp2, printer), reconnect the plugs and hey presto!

Switches 1 and 2 are used to switch between the computers and the printer, and switch 3 switches the printer between comp1 and comp2.

I hope that clearly explains things, as what seems simple to one can be double dutch to another and vise versa.

If by chance you have the other problem, ie two printers and one computer, delete switches 1 and 2. One other point, the computers needn't be Coco 3's, any combination of Coco's will work with this device.

END

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