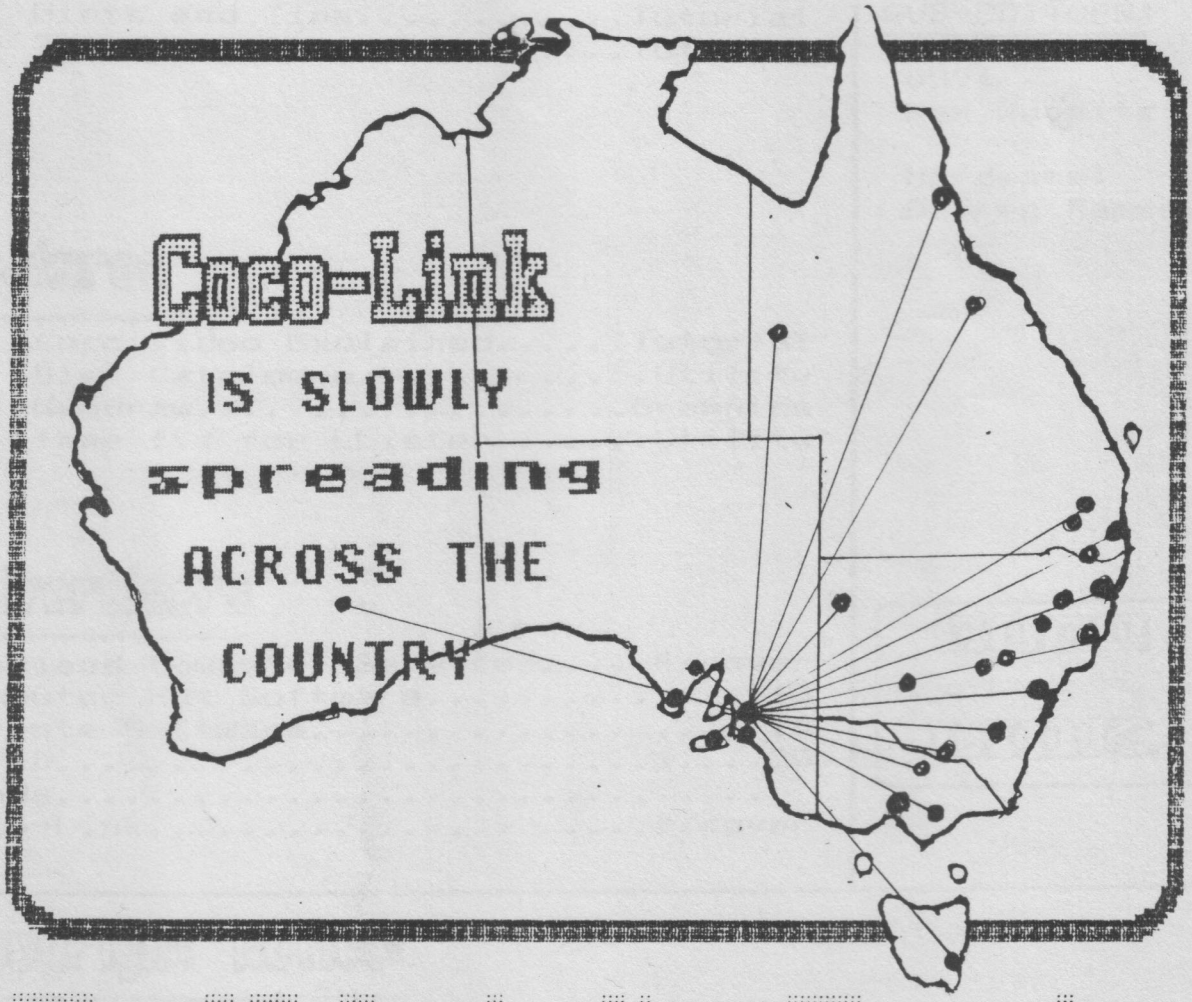
August 1989 Vol 2. No.4

Coco Link

The Magazine
of the Coco Users Network



The All Australian Magazine

For your TANDY Color Computer 1,2&3

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COCO LINK

EDITOR:

Robbie Dalzell

ASST. EDITOR:

Garry Holder

SUB-EDITORS:

OS9:
Ken Wagnitz

Hardware:
Darren Ramsey

COCO LINK

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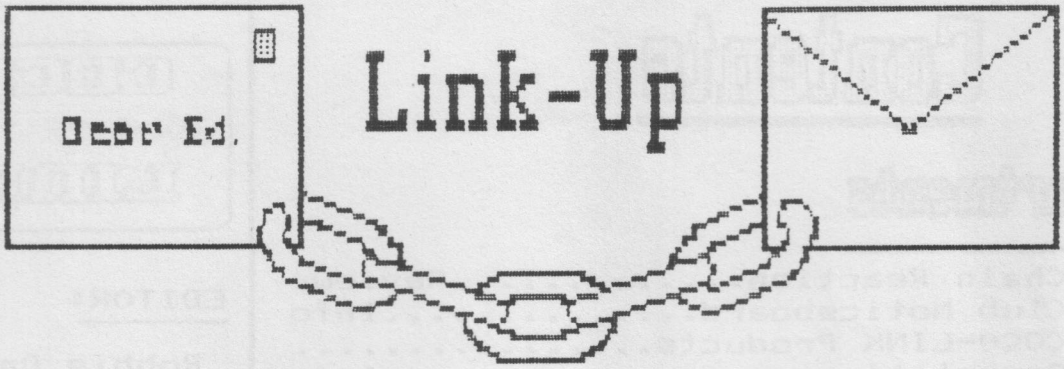

Dear Ed

Just a short note to say that I have recieved my first copy of CoCo-Link. My first impression is one of joy (as in being able to sit and read a magazine again) and one of disappointment, don't get me wrong, I am happy with the magazine, but, my main critisizm is that the type or quality of print, by this I mean that the listings and words are hard to read.
Since you are just starting this as a national magazine, I thought that I should bring this to your attention (if you take into consideration the number of readers who have a sight defect, they would find it very difficult to read).
Your Hints and Tips section are very informative and believe that many readers will benefit from this section. A hint which a member of our club (George Blandford) supplied me was how to access Drive3 using RSDOS1.0, I have also included the poke to access Drive 2,

POKE 55212,65 => DRIVE2
POKE 55213,66 => DRIVE3

with this I am now able to access all 4 drives (thank's George).
While talking about listings, I typed in 2/3 Column Llister from April's issue, and could only achive 2 column listings, when I tried the 3 column side of the program it always took me back to the 'Condensed Print Y/N' prompt, there seems to be a loop somewhere here 'what gives', also in the same listing on the same line (No 32) is it supposed to be

THEN CO=134 or CO=134.

The Moe and District TRS-80 User Group are the only CoCo User Group still active in the Latrobe Valley area and hope to be still going for many years to come. We are listed in this magazine. Come and join us.

Question 'does anyone have the schematics of the CoCo3 upgrade board', as we wish to try to make our own boards and upgrades, as we are getting into hardware mods/ projects.
Anyway I better not rave on much more (it's 1am), and once again, I wish to say thank you at CoCo-Link for giving us the oppertunity to have a printed magazine once again and wish you all the best for the future.

Joseph Hester. Moe Victoria

Dear Joseph,
I feel that the PRINT issue has been dealt with in this magazine to the best of our resources.
The 2/3 Column LLister looks back to the condensed print question because it requires this smaller print to get three columns on a normal page.
The codes used are for my old LPVIII and are 27;20 for condensed and 27;19 for normal print. These codes appear on lines 316 and 450. You may need to change them for your DMP105.
The variable is CO (not zero) and is the number of LListing COlumns across the screen.

Ed.

Dear Ed,
Thank you for the COCO-LINK magazine, the first which I have just received, I wish you great success with it.
I have the ARTGAL program, which I use a lot, putting titles on video cassette; (weddings, parties etc), also putting quiz program on cassettes. I have the ARTGAL program on disk, but I can only CSAVE it onto cassette tape which isn't good.
I would like to get intouch with someone who could alter it to SAVE on disk; I am willing to pay for this service.

Jim Eadsforth. Darlington. S.A.

PLEASE NOTE
****
Our mail bag is getting larger each magazine and this is making the job of compiling the magazine a lot more difficult. I am sure that, like us, you are interested to hear other peoples views, tips and etc. All we ask is that you keep letters as short as possible and straight to the point. Where letters are article length, please send them on disk. We are not professional typists and long letters take us forever to type in.
Our policy is to print letters in full where possible but we retain the right to abridge them where deemed neccessary for space or other reasons. We will not change the context or meaning of a subscribers letter. We welcome constructive criticism and will accept rebukes (and accolades) but retain the right of reply.

Dear Ed,
Thank you I have just received my first copy of COCO-LINK magazine, and it arrived in good condition.
First of all when do the renewals start? Is it 12 months from when we join, and do you remind us, or is it up to us to remember? The other question is, do you reply to problems if we send you an addressed envelope?
Thank goodness someone is trying to keep the CoCo computer going, and all the best with the magazine.
Robbie, the only comment at the moment is the "PRINT" I'm not knocking what you and Garry are doing, but as I always purchased the two Softgold magazines because the program printing was always large and easy to read, but towards the later months they tried to cram more material into the magazine, so then came the small print, (NO GOOD FOR US OLDIES), and believe me there are a lot of us oldies out there in CoCo land.
You can't please everyone, but I think the most important thing is that all programs must be easy to read. I have just spoken to two programmers who have just received their first copy, and their comments are the same as mine.
But I'm sure we will all be ready to help, because we need a CoCo magazine, it holds us together. Must go now and the best of luck with the magazines.

Arthur Williams. Harrington. N.S.W.

Dear Arthur,
Due to various constraints we do not propose to go to larger size print. We hope you find this issue easier to read.
Renewals for COCO-LINK are 12months after first subscription date. We will send a reminder with the magazine prior to the renewal date.
We will reply to all problems, where possible, but if we have difficulty in answering your problem we will try to put you in touch with someone who will be able to help you. This is what the Network is all about.
A stamped addressed envelope will always assure you of a more speedy reply.

Ed.

Dear Ed,
I received my first issue of your magazine Vol2, No3 and I am very pleased with it, however I found one small problem; I would like to order all of the back issues from Vol,1 No1 to Vol,2 No 2 but I do not know how many there are in Vol,1.
I am one of the many that write to Johanna Vagg; she sent my subscription form that I used to get my first sub; Johanna is quite knowledgeable in computing, and in general a very nice person to know; she is also a very generous with the knowledge she has. I see by the answer to Johanna's letter that you are doing it the right way as a hobby and not as a living.
Well good luck with your hobby venture.

Rodger Cosier. Coffs Harbour. N.S.W.

Dear Rodger,
Regarding Vol.1. I may have mislead you into thinking that COCO-LINK has been published for two years. This is not so.
The situation is this. I published a magazine called the BULLETIN for the Noarlunga Color Computer Club. Over the years this quarterly magazine eventuated into what is now COCO-LINK. When we decided to start COCO-LINK as a national magazine to try and reach all Coco owners, I decided to make Vol.1 out of the 23 issues of the BULLETIN and carry on from there. I realise in retrospect that it wasn't the best idea I've ever had but it is done now.
I have about 10 back issues of the BULLETIN which can be purchased for the normal back issue price of $2.40 each.

Ed.

Dear Ed,
Thanks for COCO-LINK. I have forwarded a subscription, and look forward to receiving the next issue, and hope you will not mind a suggestion.
I find the fonts used on pages 1 and 3 unattractive, and would suggest a normal or elongated font would suffice. As one with some experience as editor, printer and publisher of periodicals I know that striving for too much variety in fonts can detract from rather than improve the appearance of a publication. Still, in all, COCO-LINK is a good example of desktop publishing.

I was interested in your proposal to start a Public Domain or Shareware disk and hope that you will soon have enough programs to make it feasible.
I sincerely hope that you will be able to fill in the gap left by the apparant demise of CoCo magazine. I am still trying to find out what if anything, I can expect for my recent subscription to their disks.
Like Bernard Fletcher (April 89) I once had trouyle loading DATA files and programs saved to tape in ASCII format, (no trouble with ordinary saves). I found that I could read them in with my SCRIPSIT 1 cartridge, but when I tried to CLOAD I got nothing but I/O ERROR after a few lines had been loaded. Then I realised that te only difference was that SCRIPSIT read the saves in wthout the customary "clicks".
Somewhere in my cassette recorder cable there was a weak spot, and the clicks and surges were just enough to shake it loose. So I would suggest that Bernard try another cable before he commits himself to expensive repairs; it worked for me.
I note INTERTAN's assurance of support for the Coco. I hope that this will eventually be evidenced by a nice big advertisement in COCO-LINK.

Keiran Kenny. NSW.

Dear Kieran,
A nice big advertisement for COCO-LINK in TANDY stores would be more appreciated.
Thank you for the suggestion regarding the fonts on pages

2 and 3. We are working on a new concept for this so as to give more space for editorial material. Our first try out is in this magazine. We will keep your suggestion in mind as we further develope COCO-LINK.
The first of our PD disks was announced last issue and has been followed up by another addition this issue. We hope to keep adding to the list by at least one disk per issue. These disks can be purchased for $5.00 each (postage included).

Ed.

Dear Ed.
I am the author of the three programs listed in the advertisement (elsewhere in this Magazine) and have been a CoCo user for many years now. I have currently completed the design and manufacture of a video digitizer for the CoCo3 called Rascan which has been licenced to Game Point Software in the States and is featured in a full page advert in the June 1989 issue of American Rainbow magazine. I have sold several "home made" units over here but had to move production to the USA under the control of Game Point Software and support by Steve Bjork. Because I have a full time job by day, I couldn't possibly find the time to organise and assemble the units over here. I hope to be able to make units available to the already dwindling CoCo3 market here in Australia but must give the larger U.S. market the first chop.
I, as a freelance CoCo3 developer, am disappointed by the gradual decline of the CoCo3 market. Tandy should have reduced prices earlier (especially the disk drives) so as to make it more competative with the Commodore 64 computer which Commodore themselves are finding hard to "kill-off". CoCo3 users cannot find new programs for their machines, evidently, they buy a PC (TANDT NOTE! They buy mainly Amstrad or Taiwanese instead of yours!), Amiga or Atari which have a more commercial and lucrative market. The CoCo3 market needs commercialism. I think it's great to support the beginner via a magazine which includes lots of little Basic Programs and Tutorials on basic programming but few of these beginners end up developing anything that other users can enjoy. Go to any newsagent and pick up any Commodore or Atari magazine and see how many Basic programs are listed. Very few if any. Most of the content is taken up with in depth reviews of new products, adverts for new products and news and gossip as to what is under development. Sure, the real home hacker or "type-it-from-the-magazine-like-a-dummy" types may not find it interesting (personally I think they will) but this is the sort of stuff that stimulates people. It makes people buy new products which in turn makes development viable. People get more use out of their machines and hence are more satisfied in owning it.
Now, getting to your magazine, COCO-LINK. I think that it is great to see someone trying to get people connected and motivated. There are a lot of user group newsletters around but to get anywhere big, you must act big. The newsletter must expand into a magazine available to many users Australia wide. I feel COCO-LINK is a good move in the right direction for the CoCo3 market. I can understand that big things start small and so was a bit disappointed with Johanna Vagg's comments in the June '89 issue. Many people felt that her comments were a bit "picky" considering that she had only seen the first two issues of a small, privately funded and expanding magazine. A simple "improve the printing" statement would have been enough.
I do feel that CoCo-Link should keep its scopes high. The ultimate goal being a magazine like American Rainbow. Of course, this is difficult to achieve here in Australia but "if you don't aim, you won't hit it" as I say.
I feel that more emphasis should be placed on communicating with developers and getting that information to users. It helps promote the developers work and gives users something to look for. I have met many people who "tinker" with their CoCo3 and have mastered machine language to the point that if they applied themselves, could get something marketed in Australia and America wide. They learn everything they need to get there but just don't know how to get through the door.
I have seen quite a few good user group newsletters with some very unique articles. Why not have some of these newsletter articles available in CoCo-Link. A page dedicated to a specific user group for example. The biggest problem in keeping a magazine running is getting the content. The information is there, it's just a case of getting it. User group newsletter editors, why write for a handful of users when you could write for a larger and more varied group Australia wide? Submit to CoCo-Link and help the CoCo3 community grow!

Nickolas Marentes Mt. Gravatt Qld.

Dear Nickolas,
It has always been one of our published aims to help Australian programme developers. All we need is the developers to help.
As to Club newsletters, we would love to hear from user groups and would be more than happy to use your suggestion to dedicate a page to a different club each issue. So, let's hear from you club organisers.
Ed.

Dear Ed,
Firstly I would like to compliment you on a fine magazine. The need for such a magazine is obvious to all after the unfortunate demise of Softgold, CocoOz and Rainbow etc. etc! I would like to send a vote of thanks to Johanna Vagg from wmom I learned of COCO-LINK's existence. There is a very definite need for information that is sadly lacking from Tandy and it's operators.
Like Johanna I do not have the time to spend hours and hours at the keyboard. I much prefer to slip in a disk and type "RUN"! I know that there are many who are more than happy to spend time typing programs into memory.
I am totally unaware of how many members COCO-LINK has on its books but I am equally sure that if COCO-LINK was available on disk/cassette it would sell like hot cakes.
My suggestion is that you consider very seriously indeed issuing the magazine as is, for those who like it that

CONTINUED ON PAGE 7

Robbies Column

PIRATING AND SUBMISSIONS

More words have been printed about programme pirating than you can imagine and I have no intentions to add to them. Suffice it to say that this magazine does not condone the practice.

Pirating as we know is obtaining a copy of some commercially available programme without paying for it. thereby cheating the writer and producer of the programme of their just deserts.
Pirating can also be stealing someone elses programme o and selling it under your own name.
Pirating in a less innocuous form can be sending a slightly altered version of a programme to a magazine such as this under your own name when the bulk of the programme was written by someone else.

There is nothing wrong in submitting an updated or improved version of a programme as long as the original programmer is given due credit for his part in the affair. A good example of this can be seen in the Disk Catalogue programme found elsewhere in this magazine. In this programme Ian Taffs has added some useful routines to a programme originally written by .At the head of the listing Ian gives due credit to the original programmer for his work. This is the way it should be done.

There is much to be learned from altering and making improvements to existing programmes. When you have made a good job of it you can be justifiably proud of your work. Just make sure you leave romm to give credit to the originator of the programme or, if they are unknown, to acknowledge that the original idea was not your own.

****

AN ILL WIND

There's an old saying "it's an ill wind that doesn't do somebody good." This seems to be the case with COCO-LINK. With the sad demise of Goldsoft that popular writer of computermania, Johanna Vagg, has decided to direct some of her output to COCO-LINK.
Johanna's first article for our magazine appears in this issue. I am sure that Johanna's many friends will be glad to see her back in print.
Welcome to COCO-LINK, Johanna.

****

DISK/CASSETTE CONFIGURATION

The nomination forms which you all filled in show us that there are a considerable number of Coco users out there still using cassette systems.
Last issue Johanna Vagg requested a fix for the "2/3 Column LLister" programme from the April issue. The programme was written for disk with no thought of a cassette version at the time. It is not always a simple project to change from one system to the other and this has turned out to be one of those hard ones. still, I hope that it is finished by the time this edition goes to print so as I can keep my promise to Johanna.

We would like all submitters of programmes to add a fix for changing their programmes to the opposite format wherever possible. This would enhance the programme to a far greater audience. Where no fix is attached we will endeavour to provide one but this will be conditional on whether we have the available time.

It must be understood that this cannot be done with all programmes. Some are just not compatible and others entail too much work.
Where a programme is dedicated to only one system we will indicate this in the article header.

****

NATIONAL COCO-LINK

I think we can say that COCO-LINK is now a truly National magazine. We have subscribers in all states axcept the Northern territory. Our subscription rate grows very slowly due to the difficulty in advertising the fact that we exist. Still, we are getting there slowly but surely thanks to the help of quite a few of our subscribers who are willing to go out of their way to spread the word around. We give them our heartfelt thanks.

We have attained this growth despite an unwillingness on the part of INTERTAN AUSTRALIA to help by distributing our advert to their stores throughout Australia. As the ONLY magazine totally dedicated to a TANDY product one would expect a little more co-operation but so far this has not been forthcoming.

We will have to depend on our subscribers to spread the word. So, please let all your Coco user friends know that we are here waiting to help them get greater enjoyment from this wonderful hobby.....Computing on the Color Computer.

****

PRICES

John Belshaw of Blaxland Computer Services tells me that with the drop in value of the Australian dollar that prices of directly imported software and hardware are liable to rise.

Continued on page 7

Hints and Tips

ALL
===

1) You can continue a programme after an accidental press of the BREAK key or even after an error message by using GOTO with the number of the next line. This will preserve all DATA, CLEAR values and counter values in FOR..NEXT loops.

****

2) Never plug in a ROM pack cartridge with your computer turned on. This can result in the destruction of the computer!

****

3) You can save PMODE4 graphics to tape or disk as a Machine language file by the following:-

```
Tape     CSAVEM"filename",&H600,&H10FF,&HA027
Disk      SAVEM"filename",&HE00,&H25FF,&Ha027
```

LOADM"filename" or CLOADM"filename followed by EXEC will display the saved pictures.

To load a graphics screen saved on tape to the graphics area on a disk system use:

```
CLOADM"filename",&H800
```

This will "offset load" the tape system graphics screen int the correct area of the disk system.

****

4) When typing in programmes from magazines always SAVE at regular intervals just in case you booboo and lose the lot.

****

5) If your programme awaits a particular response, the use of:

```
10 IF INKEY$="K" THEN 100
```

is preferable to:

```
10 A$=INKEY$:IF A$="K" THEN 100
```

****

6) Listings can be slowed down by POKE 359,60 or disabled by POKE 383,158

****

7) You can have an automatic PCLEAR0 with DISK BASIC by placing the following routine at the beginning of your programme. It will cause the programme to relocate itself to location &H0E01.

```
10 GOTO 5000
20 DATA BD,B3,ED,1F,02,7E,96,A7
30 RESTORE:FOR X=0 TO 7:READE$:NEXT
40 '*********************************
50 ' PLACE YOUR PROGRAM HERE
60 '*********************************
5000 CLEAR200:FOR I=0 TO 7:READE$
5010 POKE&HE01=I,VAL("&H"=E$):NEXT
5020 DEFUSR0=&H01:X=USR0(&HE09)
5030 GOTO30
```

****

8) You can save a BASIC programme as a ML programme which will execute at address 44661 by using the following:

```
(C)SAVEM"name",PEEK(25)*256+PEEK(26),PEEK(27)*256+
PEEK(28),44661
```

Use either EXEC or RUN to execute the programme after (C)LOADM.

****

COCO 3
======

1) The cursor blink rate on Coco 3 can be altered on the 40 and 80 column text screens by simply POKEing memory location 63372 with any value from 0 - 255. The default rate is 11. Lower values increase the speed while larger values decrease it.
You can stop it altogether with POKE63381,0 and restart it with POKE63381,1

****

2) You can get true lowercase and 32 columns with:
POKE&H95C9,&H39:POKE&HFF22,&H34

****

3) Coco 3 starts up at 1Mz. POKE65497,0 puts it in 2Mz mode.

****

CASSETTE
========

1) You can achieve the MOTORON, MOTOROFF functions in your programmes by using:

POKE 65313,4 MOTORON
POKE 65313,52 MOTOROFF

****

2) POKE 25,6:NEW before CLOAD gives a PCLEAR0 on a cassette system. You are unable to use graphics when using this POKE.

****

OS9
===

1) You can get OS9 Level 2 to boot up in 80 columns in RGB mode by patching Term (80 columns,blue on white) and CC3IO (RGB on boot). The Modpatch scripts are as follows:

```
L Term
 C 2C 28 50
 C 30 01 02
 C 33 02 01
 C 34 13 08
 C 35 03 08
 V
L CC3IO
 C 90 86 CC
 C 92 A7 78
 C 93 88 ED
 C 94 3D 88
 C 95 86 3D
 C 96 78 12
 C 97 A7 B7
 C 98 88 10
 C 99 3E 09
 V
```

Use Cobbler to save the modified OS9boot to disk. As an alternative load PMPTS from your MULTIVUE disk. This file contains the SAVE command. After running the Modpatch script, SAVE lets you save the modified code to disk.

****

END

****

LINK-UP

From page 4

way and ALSO issuing it on disk/cassette.
Finally, re the legibility of the magazine's typeface, I have reasonably normal eyesight with glasses; even with my reading glasses I had considerable difficulty decyphering a lot of COCO-LINK, especially the listing material.
In conclusion may I wish you both, to say nothing of readers, the very best for the future of COCO-LINK.

Dr Val Stephen. Camberwell. VIC.

Dear Val,
As stated above we already have a PD Disk programme in place. I am sorry to say that due to time restrictions this will only be produced on disk.
We have no plans to turn out the whole or part of COCO-LINK on disk or tape.

Ed.

****

Robbie's Column

From page 5

Already the price of a 512K Coco 3 upgrade has risen to $375.00. This is mainly due to the very high cost of the chips used but the A$ may make it even worse. This is obviously putting the price of these upgrades out of the reach of most users.
Maybe we had better do our Xmas shopping now!!!

****

NEW ADVERTISERS
We have two new advertisers in this issue of COCO-LINK:
First is Marente Software. This advert of three Australian written programmes deserves your attention. support for Australian programme developers will help us all in the long run. Also, the prices are right. You can learn more about Nickolas Marente from his letter in the Link-up pages.
The second advertiser is JANDA. This company specialises in IBM Compatible software and hardware and produce a catalogue of IBM public domain software. They claim lower prices on add-on hardware.....maybe worth checking out for disk drives etc.

****

OOPS!!! OOPS!!!

The last paragraph on the Catalogue instructions on page 8 should read:

if used on a CoCo3, change the speed Pokes in line 1950 to POKE &HFFD9,0 and the Return to normal on line 1970 to POKE &HFFD8,0

MASTER CATALOGUE PAGE 1

DATE: 19/06/89 COMMENTS: COCO-LINK PROGRAMMES AND ARTICLES

Disk Catalogue

ENTRY # FILENAME TYP FMT DISK #

1--3HINTS P DAT ASC ARTS1/1
3--BASLINE P DAT ASC ARTS1/1
5--BETBAS P DAT ASC ARTS1/1
7--BETBAS3 VIP DAT ASC ARTS1/1
9--COCOTRIV VIP DAT ASC ARTS1/1
11--DSKFILES VIP DAT ASC ARTS1/1
8--BETBAS4 VIP DAT ASC ARTS1/1
10--DEBUG VIP DAT ASC ARTS1/1
12--DUMTERM VIP DAT ASC ARTS1/1

BY Roland Gerry and Ian Taffs

This programme is an application for catalogueing the programs listed on disk directories.
The program was originally devised by Ronald Gerry of Fort Worth, Texas, but has been upgraded to include some extra refinements.

DISK CATALOGUE allows you to make up any number of catalogues with names of your own choosing. Each disk can be given a name or number and the directory is read directly from the disk to the catalogue. This means that you can save all your games, utilities or whatever to separate catalogues, and still be able to find an individual programme with ease.

The catalogue can be sorted in alphabetical order by programme name or disk title which makes searching for a particular programme much easier. It can then be viewed on screen or dumped to the printer.
Allowance has been made for multi-disk systems by incorporating a drive selector for loading and adding data. For those with multi baud rate printers, a baud rate selector routine has also been incorporated.

The programme is very user friendly and no one should have any difficulty in operating it. This is surely a great way of keeping a record of all the things you have on disk.

NOTE, if used on a CoCo3, change the speed Pokes in line to POKE and the Return to normal on line to POKE

```
20 'PROGRAM BY
     RONALD TERRY CONSTANT

50 ' AMENDED BY IAN TAFFS AND
     THE COMPUTER USER GROUP OF
     MOE VICTORIA
70 GOTO 3130
80 CLEAR 1
90 IF MEM>&H3FFF THEN CLEAR MEM-
3650:M=590:DIM CE$(M):GOTO 110
100 CLEAR MEM-1550:M=190:DIM CE$
(M)
110 A$="":D=0:A=0:C=0:E=1:BL$=CH
R$(128):GOTO 180
120 FOR A=1 TO B-1:D=A:ON S GOTO
 130,140,150,160
130 IF LEFT$(CE$(D),8)>LEFT$(CE$
(D+1),8) THEN A$=CE$(D):CE$(D)=C
E$(D+1):CE$(D+1)=A$:D=D-1:GOTO 1
30 ELSE GOTO 170
140 IF RIGHT$(CE$(D),7)>RIGHT$(C
E$(D+1),7) THEN A$=CE$(D):CE$(D)
=CE$(D+1):CE$(D+1)=A$:D=D-1:GOTO
 140 ELSE GOTO 170
150 IF MID$(CE$(D),10,3)>MID$(CE
$(D+1),10,3) THEN A$=CE$(D):CE$(
D)=CE$(D+1):CE$(D+1)=A$:D=D-1:GO
TO 150 ELSE GOTO 170
160 IF MID$(CE$(D),14,3)>MID$(CE
$(D+1),14,3) THEN A$=CE$(D):CE$(
D)=CE$(D+1):CE$(D+1)=A$:D=D-1:GO
TO 160 ELSE GOTO 170
170 PRINT@450,A;:NEXT A:RETURN
180 CLS1:PRINT@73,"MASTER"+BL$+"
CATALOGUE"+BL$+"              AM
ENDED"+BL$+"BY"+BL$+"IAN"+BL$+"T
AFFS"
181 FOR A=1TO2000:NEXT A
182 PRINT:PRINT"AMENDED"+BL$+"BY
"+BL$+"IAN TAFFS .";
190 'MENU SYSTEM*****************

200 CLS
210 PRINT@10,"MASTER"+BL$+"MENU"
211 PRINT"AMENDED BY MOE USER GR
OUP 04/89
220 PRINT:PRINT" A-MAKE AN ORIGI
NAL CATALOGUE"
230 PRINT" B-ADD TO CATALOGUE"
240 PRINT" C-SAVE CATALOGUE ON D
ISK"
250 PRINT" D-LOAD OLD CATALOGUE
FROM DISK"
260 PRINT" E-SORT CATALOGUE"
270 PRINT" F-VIEW CATALOGUE ON S
CREEN"
280 PRINT" G-PRINT CATALOGUE"
290 PRINT" H-   END
300 PRINT:PRINTTAB(8)"MAKE"+BL$+
"SELECTION"
310 GOSUB 3030
320 S$=INKEY$:IF S$="" THEN 320
330 IF S$="H"THEN POKE113,0:EXEC
40999:'THIS WILL COLD START THE
COMUTER
```

```
340 S=ASC(S$)-64:IF S<1 OR S>8 T
HEN 200
350 ON S GOTO 370,1270,1470,1720
,1820,2010,2160
360 'MAKING ORIGINAL CATALOGUE**
**************
370 CLS
380 PRINT@36,"MAKING ORIGINAL CA
TALOGUE"
390 C=C+1:CLS:PRINT@130,"INSERT"
+BL$+"DISK"+BL$+"TO"+BL$+"BE"+BL
$+"CATALOGUED"
400 FL=9:GOSUB 3030
410 PRINT@204,"WHAT IS:"
420 PRINT"DISK # OR NAME","(7 DI
GITS MAX)"
430 INPUT DN$:IF LEN(DN$)>7 THEN
 PRINT@224:PRINT:GOTO 410
440 DN$=LEFT$(DN$+"       ",7)
450 GOSUB 2610
460 IF Q$="R" THEN C=C-1:GOTO 39
0 ELSE IF Q$="M" THEN C=C-1:GOTO
 200
470 GOSUB 2590
480 CLS:PRINT:PRINT:PRINT" SELEC
T DRIVE TO READ DIRECTORY
490 GOSUB1480
530 IT$=INKEY$:IF IT$=""THEN 530
 ELSE IF IT$="0"THEN540 ELSE IF
IT$="1"THEN720 ELSE IF IT$="2"TH
EN900 ELSE IF IT$="3"THEN1080
540 DRIVE0:X=0:GOSUB1090:GOTO124
0
720 DRIVE1:X=1:GOSUB1090:GOTO124
0
900 DRIVE2:X=2:GOSUB1090:GOTO124
0
1080 DRIVE3:X=3:GOSUB1090:GOTO12
40
1090 FOR A=3TO11
1100 DSKI$X,17,A,A$,B$
1110 FOR B=1 TO 128 STEP 32
1120 IF C=>M THEN 200
1130 DE$=MID$(A$,B,13):GOSUB 265
0
1140 NEXT B
1150 FOR B=1 TO 128 STEP 32
1160 IF C=>M THEN 200
1170 DE$=MID$(B$,B,13):GOSUB 265
0
1180 NEXT B
1190 NEXT A
1200 C=C-1
1210 CLS0
1220 SOUND 128,3:PRINT@64,"WILL
YOU DO ANOTHER DISK  (y/n)?";
1230 GOSUB 3030:RETURN
1240 Q$=INKEY$
1250 IF Q$="Y" THEN 390 ELSE IF
Q$="N" THEN 200 ELSE 1240
1260 'ADD TO CATALOGUE**********
***
1270 CLS:PRINT@39,"adding"+BL$+"
to"+BL$+"catalog"
1280 PRINT@96,"  IS THE PRESENT
 CATALOGUE IN   (m)EMORY OR ON
(d)ISK?"
1290 GOSUB 3030
1300 Q$=INKEY$
1310 IF Q$="M" GOTO 390 ELSE IF
Q$<>"D" GOTO 1300
1320 CLS:PRINT:PRINT:PRINT"SELEC
T DRIVE TO LOAD OLD CATALOGUE"
1330 GOSUB1480
1370 IT$=INKEY$:IF IT$=""THEN137
0 ELSE IF IT$="0"THEN DRIVE0 ELS
E IF IT$="1"THEN DRIVE1 ELSE IF
IT$="2"THEN DRIVE2 ELSE IF IT$="
3"THEN DRIVE3
1380 CLS2:PRINT@64,"  INSERT DI
SK HOLDING CATALOGUE  LIST TO BE
 ADDED TO."
1390 GOSUB 3090
1400 IF C<>0 THEN GOSUB3120
1410 GOSUB 2610
1420 IF Q$="R" GOTO 1270 ELSE IF
 Q$="M" THEN 200
1430 C=0:R=0
1440 GOSUB 2890
1450 GOTO 390
1460 'SAVE ON DISK**************
*
1470 CLS:PRINT@38,"SELECT DRIVE
TO SAVE ON"
1475 GOSUB1480:GOTO1520
1480 PRINT:PRINT:PRINT"
 0 = DRIVE 0
1490 PRINT"          1 = DRIVE 1

1500 PRINT"          2 = DRIVE 2

1510 PRINT"          3 = DRIVE 3
":RETURN
1520 IT$=INKEY$:IF IT$=""THEN152
0 ELSE IF IT$="0"THEN DRIVE0 ELS
E IF IT$="1"THEN DRIVE1 ELSE IF
IT$="2"THEN DRIVE2 ELSE IF IT$="
3"THEN DRIVE3
1530 CLS:PRINT@38,"SAVING"+BL$+"
DATA"+BL$+"ON"+BL$+"DISK"
1540 PRINT:PRINT"  INSERT THE D
ISK ON WHICH YOU WANT TO SAVE YO
UR CATALOGUE."
1550 GOSUB 3090
1560 GOSUB 3030
1570 GOSUB 2610
1580 IF Q$="R" THEN 1470 ELSE IF
 Q$="M" THEN 200
1590 GOSUB 2590
1600 PRINT@196,"NOW SAVING DATA
ONTO DISK";
1610 R=C
1620 OPEN "D",#1,CF$,28
1630 FIELD #1,28 AS A$
1640 FOR A=1 TO R
1650 LSET A$=CE$(A)
1660 PUT #1,A
1670 NEXT A
1680 CLOSE #1
1690 GOSUB 2770
1700 GOTO 200
1710 'LOADING DATA**************
*
1720 CLS:PRINT@36,"loading"+BL$+
"data"+BL$+"from"+BL$+"disk"
1730 PRINT:PRINT"  INSERT THE DI
SK FROM WHICH YOU WANT TO LOAD Y
OUR CATALOGUE DATA"
1740 GOSUB 3090
1750 IF C<>0THENGOSUB3120
1760 GOSUB 2610
1770 IF Q$="R" THEN 1720 ELSE IF
 Q$="M" THEN 200
1780 R=0:C=0
1790 GOSUB 2830
1800 GOTO 200
1810 'SORTING*******************
*
1820 CLS:PRINT@40,"sorting"+BL$+
"catalog"
1830 PRINT@101,"DO YOU WANT TO S
ORT BY:"
1840 PRINT:PRINT"1-FILENAME","2-
DISK #"
1850 PRINT:PRINT"3-EXTENSION","4
-TYPE PROGRAM"
1860 S$=INKEY$:IF S$="1" OR S$="
2" OR S$="3" OR S$="4" GOTO 1870
 ELSE 1860
1870 S=VAL(S$)
1880 PRINT@329,"YOU CHOSE #";S$
1890 GOSUB 3030
1900 GOSUB 2610
1910 IF Q$="R" THEN 1820 ELSE IF
 Q$="M" THEN 200
1920 GOSUB 2590
1930 PRINT@198,"NOW SORTING CATA
LOGUE";
1940 B=C
1950 POKE65495,0'FAST POKE
1960 GOSUB 120
1970 POKE65494,0'RETURN TO NORMA
L
1980 GOSUB 2770
```

```
1990 GOTO 200
2000 'VIEW ON SCREEN**************
*
2010 CLS:PRINT@37,"view"+BL$+"ca
talog"+BL$+"on"+BL$+"screen"
2020 GOSUB 2610
2030 IF Q$="R" THEN 2010 ELSE IF
 Q$="M" THEN 200
2040 B=C
2050 FOR A=1 TO B
2060 PRINT@480,CE$(A)
2070 PRINT@0,"FILENAME EXT TYP F
MT DISK #"
2080 PRINTSTRING$(32,"-");
2090 IF INT(A/13)=A/13 GOSUB 261
0:IF Q$="R" AND A>25 THEN A=A-25
:CLS:GOTO 2060 ELSE IF Q$="M" GO
TO 200
2100 NEXT A
2110 PRINT@485,"end"+BL$+"of"+BL
$+"file"+BL$+"in"+BL$+"memory"
2120 GOSUB 2610
2130 IF Q$="R" GOTO 2040
2140 GOTO 200
2150 'PRINT CATALOGUE************
***
2160 CLS:PRINT@32,"WHAT IS YOUR
PRINTER'S BAUD RATE
2170 PRINT:PRINT:PRINT"      1 =
 300 BAUD RATE
2180 PRINT"      2 = 600 BAUD RA
TE
2190 PRINT"      3 = 1200 BAUD R
ATE
2200 PRINT"      4 = 2400 BAUD R
ATE
2210 PRINT"      5 = 4800 BAUD R
ATE
2220 PRINT"      6 = 9600 BAUD R
ATE
2230 P$=INKEY$:IF P$=""THEN2230
ELSE 2240
2240 IF P$="1"THEN POKE150,180
2250 IF P$="2"THEN POKE150,87
2260 IF P$="3"THEN POKE150,40
2270 IF P$="4"THEN POKE150,18
2280 IF P$="5"THEN POKE150,7
2290 IF P$="6"THEN POKE150,1
2300 CLS:PRINT@40,"PRINTING"+BL$
+"CATALOGUE"
2310 GOSUB 3030
2320 PRINT@96,;:INPUT"DATE (00/0
0/00)";D$
2330 PRINT@160,"COMMENTS (50 CHA
RACTERS MAXIMUM)"
2340 INPUT CO$
2350 IF LEN(CO$)>50 THEN PRINT@1
92, STRING$(96," "):GOTO 2330
2360 GOSUB 2610
2370 IF Q$="R" THEN 2160 ELSE IF
 Q$="M" THEN 200
2380 PN=1:EN=1
2390 PRINT#-2:PRINT#-2:PRINT#-2:
PRINT#-2:PRINT#-2
2400 PRINT#-2,CHR$(14)TAB(12)"MA
STER CATALOGUE";
2410 PRINT#-2,CHR$(20)TAB(46)"PA
GE";PN:PN=PN+1
2420 PRINT#-2
2430 PRINT#-2,"DATE: ";D$;TAB(20
)"COMMENTS: ";CO$
2440 PRINT#-2
2450 PRINT#-2,"ENTRY # FILENAME
EXT TYP FMT DISK #";
2460 PRINT#-2,TAB(40)"ENTRY # FI
LENAME EXT TYP FMT DISK #"
2470 PRINT#-2,STRING$(80,"-")
2480 FOR A=EN TO C
2490 IF INT(A/2)=A/2 THEN PRINT#
-2,TAB(40);:PRINT#-2,USING"#####
#";EN;:GOTO 2510
2500 PRINT#-2,USING"######";EN;
2510 PRINT#-2,"--"+CE$(A);:IF IN
T(A/2)=A/2 THEN PRINT#-2
2520 IF INT(EN/100)=EN/100 THEN
PRINT#-2,CHR$(12);:EN=EN+1:PRINT
#-2:PRINT#-2:PRINT#-2:PRINT#-2:P
RINT#-2:GOTO2390
2530 EN=EN+1
2540 NEXT A
2550 PRINT#-2,CHR$(12);
2560 GOSUB 2770
2570 GOTO 200
2580 'SUBROUTINES***************
*
2590 CLS3:PRINT@138,"please"+BL$
+"wait";
2600 RETURN
2610 PRINT@482,"<c>ONTINUE, <r>E
DO OR <m>ENU";
2620 Q$=INKEY$:IF Q$="C" OR Q$="
R" OR Q$="M" THEN RETURN ELSE 26
20
2630 RETURN
2640 'CONSTRUCT CATALOGUE ENTRY*
**************
2650 IF LEFT$(DE$,1)=CHR$(0) THE
N RETURN
2660 IF LEFT$(DE$,1)=CHR$(255) T
HEN RETURN
2670 FI$=LEFT$(DE$,8)
2680 EX$=MID$(DE$,9,3)
2690 FT$=MID$(DE$,12,1)
2700 IF FT$=CHR$(0) THEN FT$="BA
S" ELSE IF FT$=CHR$(1) THEN FT$=
"DAT" ELSE IF FT$=CHR$(2) THEN F
T$="ML " ELSE FT$="EDI"
2710 AF$=MID$(DE$,13,1)
2720 IF AF$=CHR$(0) THEN AF$="BI
N" ELSE AF$="ASC"
2730 CE$(C)=FI$+" "+EX$+" "+FT$+
" "+AF$+" "+DN$
2740 C=C+1
2750 RETURN
2760 'FINISHED ROUTINE**********

2770 SOUND 128,3
2780 CLS7
2790 PRINT@236,"FINISHED";
2800 FOR A=1 TO 700:NEXT A
2810 RETURN
2820 '**** LOAD FROM DISK *****
2830 CLS:PRINT:PRINT:PRINT:PRINT
"      SELECT DRIVE TO READ"
2840 GOSUB1480
2880 IT$=INKEY$:IF IT$=""THEN288
0 ELSE IF IT$="0"THEN DRIVE0 ELS
E IF IT$="1"THEN DRIVE1 ELSE IF
IT$="2"THEN DRIVE2 ELSE IF IT$="
3"THEN DRIVE3
2890 GOSUB 2590
2900 PRINT@195,"NOW LOADING DATA
 FROM DISK";
2910 OPEN "D",#1,CF$,28
2920 FIELD #1,28 AS A$
2930 IF LOF(1)=0THEN2980
2940 R=R+1
2950 GET #1,R
2960 CE$(R)=A$
2970 IF LOF(1)<>R THEN 2940
2980 CLOSE #1
2990 C=R
3000 GOSUB 2770
3010 RETURN
3020 'DISPLAY # ENTRIES*********
3030 PRINT@384," # ENTRIES     M
AX #    # LEFT"
3040 IF FL=9 THEN CC=C-1 ELSE CC
=C
3050 PRINTUSING"##########";CC;M
;M-CC
3060 FL=8
3070 RETURN
3080 'GET FILENAME**************
3090 PRINT@192:INPUT"   WHAT IS
THE FILENAME FOR THIS CATALOGUE
 (8 CHARS MAX)";CF$
3100 IF LEN(CF$)>8 THEN PRINT@22
4,STRING$(32," "):GOTO 3090
3110 RETURN
3120 PRINT:PRINT"  CATALOGUE CUR
RENTLY IN MEMORY   WILL BE DESTR
OYED !":RETURN
3130 PMODE0:PCLEAR1:GOTO80
```

END

Better BASIC Part 5

By Johanna Yagg

I don't seem to be able to find the time to write many programs. I concentrate much more on 'fiddling'. BASICally I use a method called "trial and error" - lots of trial and lots of ERROR. I concentrate on a particular program or routine. I think about it while I do the washing etc, and even while I sleep! I experiment (or fiddle). Sometimes there is a lot of guesswork. Occasionally I make an educated guess! For example: I wanted to be able to dump a 12K PMODE4 file with a program called GSPR. I PEEKed. (I might elaborate about PEEKing in a later article) I knew I could be looking for a 191 or 192 (pixels), OR 27 or 28 (line feeds). So I PEEKed, and POKEd and dumped; and re-POKEd and PEEKed and POKEd and dumped some more. I used lots of paper before I 'had it right'. This was a machine language program, so I should have written some notes somewhere. After I have made the desired changes to a program, I usually forget what I have done. If I fiddle with a BASIC program, I should REM it, marking the changes... BUT, who likes to do as he/she SHOULD??

There is something else we should do: we should use variables. Do you have a program in color to be changed to black and white for dumping? It is much easier if the original used variables. This is a case of "Don't do as I do, do as I say." I have not used this method often, (I have not DRAWn many pictures) but I HAVE wished that others had used it! One way to make it easier to dump a graphic screen, is to use only one color for the actual drawing. Your screen version can then have color added with PAINT.

Using a variable for tape/disk is a good idea. A program can be written to check whether a disk drive is present, and then (C)SAVE(M) and (C)LOAD(M) to/from tape/disk accordingly. A program can also 'ask' the user which device it should use. An example of a program which adjusts for tape or disk by user INPUT is Craig Stewart's dump (March 1987 CoCo), but it only changes the 'start of graphics' address - it SAVEMs to disk either way. This needs to be changed if you have a tape system! It could have been programmed to CSAVEM to tape if it was for a tape system, or it could have asked whether you wanted the program (C)SAVEMed to tape or disk.. I have done the latter in NEWDRAW because you might want to save to tape (for someone else?) even if you have disk.

Converting disk programs for tape and vice versa is not always simple, but I have had some practice. Recently I received this question in the mail from someone.

"In the August 1986 CoCo magazine, there were three programs which interested me. I would like to be able to animate block graphics. The programs - SLIDE, BUSTED and BANDIT - were written for disk. Would you be able to tell me how to convert them for tape?"

I assume that a lot of the readers of CoCo-Link WERE readers of CoCo/Softgold. If you don't have the particular magaine, you might still learn something.

In August 1986 I had a tape system too. I tried to convert the programs then but couldn't. I didn't get back to those programs until the question arrived. By that time I had 'gone disk' and didn't need to convert them. Maybe that is why I managed to do it?

I will not try to explain the programs. I will not try to understand the programs! I will tell you how to convert them for a tape system.
In BUSTED change the 3584 to 1536 and the 4095 to 2047 (line 40). Instead of line 30 use the following:

```
30 P=3
31 FOR I=0 TO 6
32 B=1
33 IF INT(P/2)*2=P THEN B=0
34 P=INT(P/2)
35 POKE65478+I*2+B,0
36 NEXT I
39 RETURN
```

For BANDIT, change to BP=1869 (line 30), and put the above routine at 40 - 49 using a different variable instead of B which is used somewhere else. Also adjust the numbers in line 50.

For SLIDE, put the routine at 40 - 46. Don't put the RETURN in 49, it is in 50. Adjust the numbers in line 70. You need to look at page 3, which begins at 1536 for tape.

```
    0 - 511  is page 0
  512 - 1023 is page 1 etc
```

If you were to use the first routine in my article in November 1985 CoCo, the DATA would be 1,1,0,0,0,0,0 which is back to front for 3, ie 1 in the first column is 1 and 1 in the second column is 2; total 3. (just as 1 in the first column in a decimal number is one and 1 in the second column is 10)

The second routine (which is virtually the same as the one I have listed in this article) allows you to look at any page by changing the value of P. The routine checks whether P is odd or even. If it is odd, there was a 1 in the first column. To check the second binary digit in the number (computers work in binary), we divide P by 2 and make it an integer. This effectively 'strips' the first binary digit from the number. Say for example, P was decimal 13. This would be:

1 0 1 1 0 0 0 (backwards.. 1+4+8)
Then 0 1 1 0 0 0 (2+4, which is 13/2 made into an integer ie 6)
Then 1 1 0 0 0 (1+2, which is 6/2 or 3)
Then 1 0 0 0
It continues with the zeros; (a total of) 7 times (0 to 6)

Each digit is checked and the appropriate number is POKEd into the appropriate location. I don't pretend to understand it any further - that is why I have (over)used the word 'appropriate'! In 1985 I wanted to make Tino Delbourgo's WORLD program fit into my 32K computer. With the help of Peter Vernon's book, "Making the most of Your TRS-80 Color Computer"; a visiting programmer; and a machine language routine from Tino; I wrote the article in November 1985 CoCo (and turned the world right side up while I was doing it!)

In the 'GETTING and PUTTING on the LO-RES screen' programs in August 1986 CoCo, either routine could be used OR you could use these POKEs:

```
POKE65479,1:POKE65481,1
POKE65482,0:POKE65484,0
POKE65486,0:POKE65488,0
POKE65490,0
```

These are the numbers which are POKEd by the routines (for page 3).. but don't expect to find them there if you PEEK.

I need a break from this 'heavy' material.. maybe I'll PLAY some 3 Voice music on my Tandy 1000 HX.

END

HOW TO SUBMIT MATERIAL TO COCO-LINK

PROGRAMMES: On tape or disk.
At least two copies should be on the tape/disk one of which should be saved in ASCII format.
Where possible include a description of your prodgramme saved as below for articles.

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.

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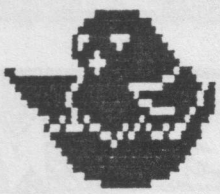
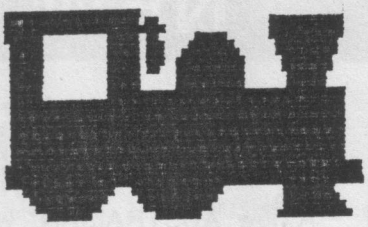


NEWDRAW



By Johanna Vagg

NEWDRAW is a basic drawing system for text screen block graphics. It has been specifically developed for printers such as the TP10 which cannot handle hi-res graphics although it can be used with other printers.

The instructions for drawing are in the programme. Read them carefully. A tone will sound when a save is completed. Your picture will remain on the screen, so that you can dump it, or edit and save a new version. When you press * to save, your disk or tape MUST be ready. Printing a reminder on the screen would destroy your picture.

The title graphics are examples drawn by Margaret Bell, using NEWDRAW, which show the possibilities. A copy of the NEWDRAW generated programme is included (listing 2) for the CHICK graphic.
If you have a TP-10 printer, you will be able to print this example or your own creations, on paper.
Using a DMP105/106 (and others with block graphics?) you can print pictures direct from NEWDRAW.

The programmes generated by NEWDRAW can be adapted so that you can printout the graphics with printers other than the TP10. This is simply done by merging lines 700 to 1040 from NEWDRAW on to the end of the generated programme. Change line 15 to read GOTO500 and add:

```
500 GOSUB1000:GOSUB700:END
```

Have fun!

LISTING 1

```
1 CLS2:PRINT@66,"THIS PROGRAM  W
AS WRITTEN BY";:PRINT@134,"JOHAN
NA VAGG IN 1988";
5 '**********NEWDRAW**********
   *****BY JOHANNA VAGG*******
   ***HELPED LONG DISTANCE****
   ********* RE TP-10 ********
   *****BY MARGARET BELL******
6 '***SUBROUTINE AT 1000 FROM
   ***TITLEMAKER BY FRED SCERBO
9 FORT=1TO1500:NEXT
10 CLS:PRINT"DRAW A PICTURE IN B
LOCK GRAPHICS":PRINT"    SAVE IT
 TO TAPE OR DISK          AS A
BASIC PROGRAM":PRINT:PRINT"THEN
DUMP IT TO  A TP-10 PRINTER":PRI
NT"  OR DMP105 OR SIMILAR PRINTE
R"
12 CLEAR2000
15 PRINT@470,"ANY KEY":EXEC44539

20 CLS:INPUT"WILL YOU SAVE TO TA
PE OR DISK";S$
30 IF S$="T" THEN DV=-1 ELSE DV=
1
40 INPUT"PLEASE NAME YOUR PICTUR
E NOW";E$:IF E$=""THEN 40
50 CLS:PRINT"  YOU CAN DRAW WITH
 THE ARROWS    ALSO A Q W S FOR
DIAGONALS..  USE THE SPACEBAR TO
 CHANGE FROM DRAW TO ERASE  OR E
RASE TO DRAW"
55 PRINT"    USE C TO CHANGE COL
OURS"
60 PRINT:PRINT:PRINT"  WHEN YOU
ARE FINISHED,   PRESS     '*' (S
HIFT/:) TO SAVE":PRINT"have disk
 in drive or tape ready"
70 PRINT:PRINT"OR USE ! TO DUMP
TO TP10            OR # TO DUMP
TO OTHER TANDY   PRINTER WITH BL
OCK GRAPHICS"
80 PRINT"       any key to begin
";:EXEC44539:CLS0:PRINT@448,"USE
 * TO SAVE disk/tape ready?";:PR
INT@480," ! DUMP TP-10  # DUMP T
O OTHER";
90 W=0:Y=0:CC=1
100 A$=INKEY$:IF A$="" THEN100
110 A=ASC(A$)
120 IF A=65 THEN W=W-1:Y=Y+1
130 IF A=81 THEN W=W-1:Y=Y-1
140 IF A=87 THEN W=W+1:Y=Y-1
150 IF A=83 THEN W=W+1:Y=Y+1
160 IF A=42 THEN GOSUB1000:GOSUB
400
170 IF A=33 THEN GOSUB1000:GOSUB
600
180 IF A=35 THEN GOSUB1000:GOSUB
700
190 IF A=94 THEN Y=Y-1
200 IF A=10 THEN Y=Y+1
210 IF A=9 THEN W=W+1
220 IF A=8 THEN W=W-1
230 IF W<0 THEN W=0
240 IF W>63 THEN W=63
250 IF Y<0 THEN Y=0
260 IF Y>27 THEN Y=27
270 IF A=32 AND C=0 THEN C=1:GOT
O290
280 IF A=32 AND C=1 THEN C=0:GOT
O290
282 IF A=67 THEN CC=CC+1
283 IF CC>8 THEN CC=1
290 SET(W,Y,CC):IF C=1 THEN FORT
=1TO50:NEXT:RESET(W,Y)
300 GOTO100
400 XX=1024
410 OPEN"O",DV,E$
412 A$="5 REM MAKE DV EQUAL -2 T
O DUMP    TO TP-10.  ALSO CHANGE
```

```
413 LINE 15 TO PRINT#-2"
414 PRINT#DV,A$
420 LN=20:A$="10 CLS0:FORI=0 TO"
+STR$(S-1)+":READB:PRINT#DV,CHR$
(B+128);:NEXT"
430 PRINT#DV,A$
440 A$="15 GOTO15"
450 PRINT#DV,A$
460 A$=STR$(LN)+" DATA"
470 FORT=1 TO S/32
480 FORX=XX TO XX+31
490 P=PEEK(X)
500 P=P-128
510 P$=STR$(P)
520 PP=LEN(P$)
530 P$=RIGHT$(P$,(PP-1))
540 IF P$="0" THEN P$=""
550 A$=A$+P$+","
560 NEXT
570 A$=LEFT$(A$,LEN(A$)-1):PRINT
#DV,A$:LN=LN+10:A$=STR$(LN)+" DA
TA":XX=XX+32
580 NEXTT
590 CLOSE#DV:SOUND100,10:RETURN
600 FORR=0 TO S-1:B=PEEK(1024+R)
:PRINT#-2,CHR$(B);:NEXT:PRINT#-2

605 SOUND100,10
610 RETURN
700 PRINT#-2,CHR$(27)CHR$(28)
710 PRINT#-2,CHR$(27)CHR$(20)
720 FORT=0 TO (S-32)/32
730 FORL=0TO31
740 B=PEEK(1024+L+T*32)
745 IF B>143 THEN B=B-16:GOTO745

750 IF B=128 THEN B=224
760 IF B=129 THEN B=228
770 IF B=130 THEN B=227
780 IF B=131 THEN B=232
790 IF B=132 THEN B=226
800 IF B=133 THEN B=234
810 IF B=134 THEN B=230
820 IF B=135 THEN B=238
830 IF B=136 THEN B=225
840 IF B=137 THEN B=229
850 IF B=138 THEN B=233
860 IF B=139 THEN B=237
870 IF B=140 THEN B=231
880 IF B=141 THEN B=236
890 IF B=142 THEN B=235
900 IF B=143 THEN B=239
910 PRINT#-2,CHR$(B);:NEXT
920 PRINT#-2
930 NEXT
940 PRINT#-2,CHR$(27)CHR$(19)CHR
$(27)CHR$(54)
945 SOUND100,10
950 RETURN
1000 FOR L=1440 TO 1056 STEP-32:
ST=0
1010 FORM=L TO L+31:RS=PEEK(M):S
T=ST+RS:NEXTM
1020 IF ST=4096 THEN NEXTL
1030 S=L-1024+32
1040 RETURN
```

LISTING 2

```
1 CLS8:PRINT@66,"THIS PROGRAM  W
AS 'DRAWN' BY";:PRINT@133,"MARGA
RET BELL IN 1988";:PRINT@194,"US
ING JOHANNA VAGG'S NEWDRAW";
5 REM MAKE DV EQUAL -2 TO DUMP
  TO TP-10.  ALSO CHANGE LINE 15
  TO PRINT#-2
9 FORT=1TO1500:NEXT
10 CLS0:FORI=0 TO 415:READB:PRIN
T#DV,CHR$(B+128);:NEXT
15 GOTO15
20 DATA,,,,,,,,,,,,,,,,,,,,,,,,,
,,,,,,
30 DATA,,,,,,,,,,,,,,,,,,,,,,,,,
,,,,,,
40 DATA,,,,,,,,,,3,15,15,15,15,3
,,,,,,,,,,,,,,,,
50 DATA,,,,,,,,,6,13,15,14,12,15
,15,11,,,,,,,,,,,,,,,
60 DATA,,,,,,,,,11,15,13,15,7,15
,15,15,11,,,,,,,,,,,,,
70 DATA,,,3,,,,,,4,11,1,15,15,15
,15,15,15,9,2,,,,,,,,,,,,
80 DATA,,,4,15,15,15,15,15,9,15,
15,15,15,12,12,12,3,15,15,2,2,,,
,,,,,,,
90 DATA,,,,4,15,15,15,10,15,15,1
5,15,15,11,12,15,15,15,15,5,10,,
,,,,,,,,
100 DATA,,,,,,12,15,13,5,13,15,1
5,15,15,13,3,3,15,9,15,8,,,,,,,,
,,
110 DATA,,,,,,4,3,11,3,11,6,13,9
,9,11,12,6,1,15,10,,,,,,,,,,,,
120 DATA,,,,,,,4,15,15,15,15,11,
15,15,15,15,15,15,15,14,,,,,,,,,,,,

130 DATA,,,,,,,,4,15,15,15,15,15
,15,15,15,15,14,,,,,,,,,,,,,
140 DATA,,,,,,,,,,12,13,15,15,15
,15,12,8,,,,,,,,,,,,,,
```

COCO LINK
The Magazine of the Coco Users' Network

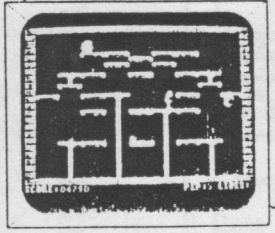
GAMES

Rupert Rythym

by Nickolas Marentes

Help Rupert infiltrate "Music Box Records" and collect all of his stolen notes which are scattered throughout the complex. Ride the crazy elevators and beware of the security robots on patrol.

This strategy arcade game features 17 different, 16 color graphic screens and some of the hottest digitized percussion music and vocals you've ever heard. Disk or Tape

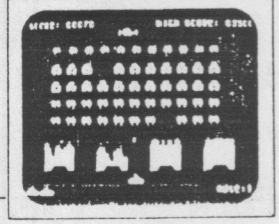


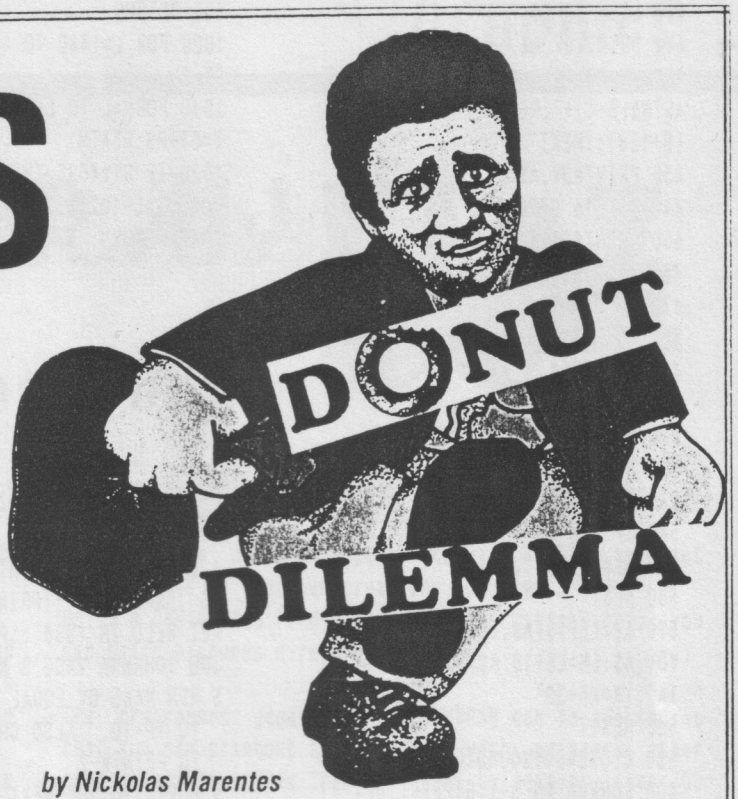
SPACE INTRUDERS

by Nickolas Marentes

Enemy alien creatures have been identified entering our solar system, their destination: our home planet! Their goal: the total annihilation of our race. They must not be allowed to land!

An action arcade game featuring high quality 16 color graphics and sound effects.





by Nickolas Marentes

Angry Angelo has raided Antonio's Donut Factory sending the entire complex amuck! Donuts have come alive and are jumping around in wild frenzies. Machines have gone out of control throwing cooking fat, dough and icing sugar everywhere! You must help poor Antonio climb ladders, Jump platforms and ride elevators to reach the top floor and shut down the factory's power generator which will restore law and order.

PROGRAM DETAILS

PROGRAM TITLE	COCO REQUIRED	MEMORY NEEDED	JOYSTICK	KEYBOARD	LANGUAGE
Donut Dilemma	CoCo 1,2 or 3	64K Minimum	NO	YES	6809 M/L
Rupert Rythym	CoCo 3 only	128K or 512K	YES	NO	6809 M/L
Space Intruders	CoCo 3 only	128K or 512K	YES	YES	6809 M/L

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*** Please PRINT name and address in large uppercase letters ***

ATTENTION PROGRAMMERS: We are looking for commercial quality software for the CoCo3, preferably machine language. Help support the CoCo3 market by making your product available to CoCo3 users in Australia, Canada and the U.S.A.!

Competitions

Short Story Competition

RULES:
1) Story to have a theme which in some way involves computers or advanced electronics.
2) To be of length..... 1500 to 3000 words.
3) Submission must be submitted by 1st November 1989.
4) The judges decision will be final. No correspondence will be entered into.
5) Competition is open to financial subscribers only.
6) Staff or family of COCO-LINK are ineligible to take part in competition.

METHOD OF SUBMISSION
Submissins will be accepted on tape or disk accompanied by a hard copy. Disk/tapes should be recorded in ASCII format.

JUDGING
The Competition will be judged by Marrianne Glenton, novelist and teacher of advanced writing at TAFE colleges.

Elevators Competition

RULES
1) All code other than that supplied must be the work of the person(s) submitting the programme
2) Submissions must be recieved by 1st November 1989.
3) The judges decision will be final and no correspondence will be entered into.
4) Only financial subscribers to COCO-LINK are eligible to enter the competition.
5) Staff and family of COCO-LINK are ineligible to enter the competition.

METHOD OF SUBMISSION
Submissions will be accepted on tape or disk for either Coco 1,2 or 3. Please submit at least one ASCII copy and one binary copy. Any accompanying text should be saved in ASCII format and be accompanied by a hard copy.

JUDGING
Judging will be carried out by the staff of COCO-LINK magazine. Submissions will be judged on a number of criteria including imagination.

Elevator platforms

This competition is for programmers. The scene is set....All you have to do is complete the programme to your own personal design and ideas.

The following listing sets up three elevators on the screen. The elevators move up and down the screen at different speeds. Your problem is to add the code which gives it a purpose. The only restriction to what can be done with the elevators is your imagination.

ELEVATORS

```
50 DIMA(13,4),B(13,4),C(13,4),D(
13,4)
999 'DRAW ELEVATORS
1000 PMODE3:PCLS:SCREEN1,0
1010 PCLS:COLOR6,0
1020 X=40:Y=20
1030 LINE(X,Y)-(X+16,Y+111),PSET
,B
1040 X=120:LINE(X,Y)-(X+16,Y+111
),PSET,B
1050 X=200:LINE(X,Y)-(X+16,Y+111
),PSET,B
1099 'DRAW AND GET PLATFORMS
1100 GET(42,139)-(55,135),D
1110 COLOR0,0:LINE(42,129)-(55,1
25),PSET,BF:GET(42,129)-(55,125)
,A
1120 COLOR3,0:LINE(122,129)-(135
,125),PSET,BF:GET(122,129)-(135,
125),B
1130 COLOR2,0:LINE(202,129)-(215
,125),PSET,BF:GET(202,129)-(215,
125),C
1998 'PLATFORM MOVEMENT
1999 'PLATFORM A
2000 X=42:X1=122:X2=202:Y=125:Y1
=125:Y2=125:A=0:A1=0:A2=0:B=0
2020 PUT(X,Y)-(X+13,Y+4),D,PSET
2030 Y3=Y:GOSUB5000:Y=Y3
2055 PUT(X,Y)-(X+13,Y+4),A,PSET
2999 'PLATFORM B
```

Continued on page 21

ELEVATORS

Continued from page 17

```
3000 PUT(X1,Y1)-(X1+13,Y1+4),D,P
SET
3010 Y3=Y1:GOSUB5010:Y1=Y3
3020 PUT(X1,Y1)-(X1+13,Y1+4),B,P
SET
3999 'PLATFORM C
4000 PUT(X2,Y2)-(X2+13,Y2+4),D,P
SET
4010 Y3=Y2:GOSUB5020:Y2=Y3
4020 PUT(X2,Y2)-(X2+13,Y2+4),C,P
SET
4800 GOTO2020
4999 'PLATFORM SUBROUTINES
5000 IFA=0THENY3=Y3-4 ELSE IFA=1
THENY3=Y3+4
5001 B=A:GOSUB5050:A=B:RETURN
5010 IFA1=0THENY3=Y3-2 ELSE Y3=Y
3+2
5011 B=A1:GOSUB5050:A1=B:RETURN
5020 IFA2=0THENY3=Y3-3 ELSE IFA2
=1THENY3=Y3+3
5021 B=A2:GOSUB5050:A2=B:RETURN
5050 IFY3<24THENB=1 ELSE IFY3>12
1THENB=0
5051 RETURN
```

END

Coco Link

The Magazine
of the Coco Users Network

★ "Dreadful day at the office! The computer broke down and we all had to think!"

Nomination Form

Give the Nomination form opposite to your COCO User friends and do them the best turn you have ever done. They will thank you for it.

DO IT NOW!!!

M4

[ ] RENEWAL SUB NO. [ ]

COCO-LINK

NAME: _____

ADDRESS: _____

_____

_____ TELEPHONE: _____

EQUIPMENT:

COCO 1	[ ]	MULTIPAK	[ ]	OTHER	[ ]
COCO 2	[ ]	CASSETTE	[ ]		
COCO 3	[ ]	DISK	[ ]		

PRINTER MODEL [ ]

MODEM MODEL [ ]

DO YOU PROGRAMME?

BASIC	[ ]	ASSEMBLY	[ ]	OS9 LEVEL 1	[ ]
C	[ ]	BASIC 09	[ ]	OS9 LEVEL 2	[ ]
PASCA	[ ]	FORTRAN	[ ]		

OTHER [ ]

INTERESTS:

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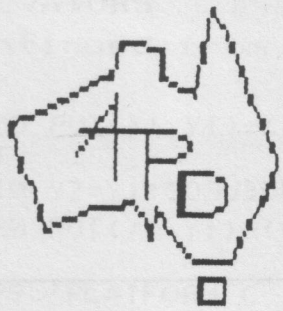

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Coco Video Explained

By Darren Ramsey

To the Coco, or most computers for that matter, the primary means of communicating with its human user is via a video display unit (V.D.U.). The V.D.U. is capable of providing text info., diagrams, graphs and animated graphics at much greater speed than other output devices like printers, plotters, etc. In this article I shall present a simplified look at how the Coco produces and transmits it's video information.

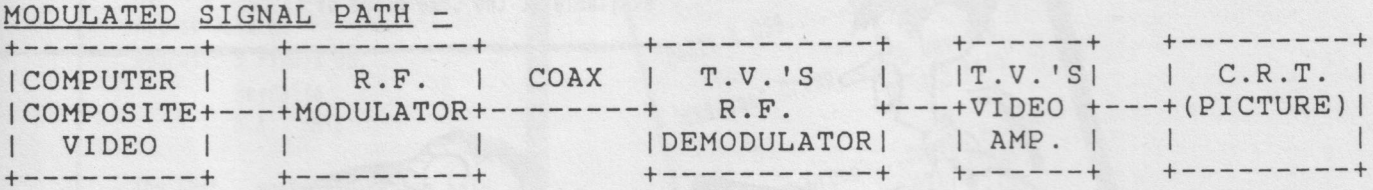
Until the Coco 3 became available, the only video output on an unmodified Coco was an R.F. (RADIO FREQUENCY) modulated signal. This signal was directed to a standard colour T.V.'s antenna input and is set to a particular channel's frequency. At this point I shall make mention of the T.V. standards of P.A.L. and N.T.S.C., and, for the technically minded, a brief definition of each:

* P.A.L. (PHASE ALTERNATIONS LINE) - A system in which the subcarrier derived from the colour burst signal (4.433618 MHZ) is inverted in phase from one line to another so as to minimize possible errors in hues that may occur during colour transmission. Video modulation carriers CH1 57.25 MHZ, CH2 64.25 MHZ, SOUND 5.5 MHZ.

* N.T.S.C. (NATIONAL TELEVISION SYSTEM COMMITTEE) - An American standard of television specifications where a 3.579545 MHZ carrier signal where phase modulation occurs with instantaneous hue of the transmitted colour, and the amplitude is modulated with the instantaneous saturation of the colour.

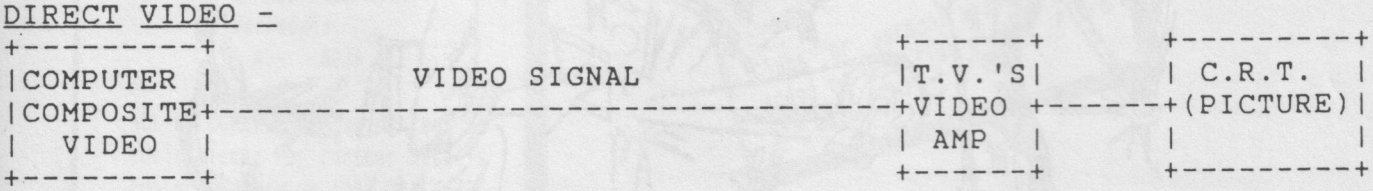
A popular modification to the Coco 1 & 2's was to install a video amplifier to pick off and make usable a direct composite video signal. The Coco 3's have this facility already available (obviously "THE SHACK" got the message!). The benefits of using direct video can only be appreciated by comparing it with a modulated signal side by side. The direct video produces a sharper, cleaner picture with less interference caused by other household appliances. The reason for this is that with an R.F. modulated signal, the computer has to turn the direct video signal into an R.F. signal, transmit it via a coax cable to the T.V., which takes the R.F. signal and turns it back into a video level signal (typically IVp.p).

MODULATED SIGNAL PATH -



THIS TAKES AN EXTRA 2 STEPS - MODULATION AND DE-MODULATION.

DIRECT VIDEO -



To use direct video - a video monitor must be employed. This can be either a monitor designed for such a purpose (obviously the best choice), or a modified T.V. set. Portable T.V. sets these days however, are becoming less and less able to be converted as such.

The Coco 3 also provides for an analogue R.G.B. monitor. These monitors produce a high quality, multi-colour signal of the highest order. It does however require a special monitor, and it's price reflects the picture quality.

Unlike the R.F. modulated signal, which uses the T.V.'s ability to decode audio signals, video monitors generally don't support audio, so other means of producing sound

must be used. The following is a quick run-down on the video generation inside the Coco:
Coco 1 & 2 - The heart of the video section is the video display generator chip - the 6847. This produces the intensity, synchronizing and colour generation within the video signal. Extra hardware is installed in the Australian Coco's to change the American N.T.S.C. signal into a P.A.L. compatible signal. This causes a fair bit of mincing around on the video signal and clock rates which, in turn, causes its share of problems. Anyone who has executed some of the American written games knows of the "OFF COLOUR" picture they get. We are also aware of the fact that the Coco work area doesn't fill the screen. Those black lines above and below the "BACKGROUND COLOUR" area are a result of the N.T.S.C./PAL conversion (P.A.L. has 312 lines per frame, whereas N.T.S.C. has 262 lines per frame.).

COCO 3 - The video signals are produced by the TCC1014 advanced video chip. This does the job that used to be done by the 6847, SAM and their support hardware. It also handles 64 different colours and produces both composite and R.G.B. outputs. Unfortunately however, the composite was still designed for N.T.S.C., but a better PAL encoder is installed within the Coco 3. This gives a better quality conversion.
Without going into too much more detail, that is a bare-bones look at the video generation circuit, but it serves as an insight into the general idea behind the Coco's video output(s).

END

PUBLIC DOMAIN SOFTWARE

Disk No. 011.....GAME
****

COCO TRIVIA
****

This issue's addition to the Public Domain Library is the game of COCO TRIVIA. This is a "Trivial Pursuit" type of game which up to four persons or teams can play. There are over 1000 questions and answers on various subjects to keep you interested.

The game comes on a flippy disk with the programme etc. on one side and the questions on the other. The disk only needs to flipped over once.

Instructions for playing are included on a DOC file on the disk. There is also a small utility programme called READER for those who do not have a word processor. This utility will allow you to read the DOC file on screen or dump it to a printer.

This disk numbered PD 011 is now available at the low cost of $5.00.

Don't forget about PD 001, our educational disk. It is available at the same price of $5.00.

Club Noticeboard

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 14th of the month previous to publication.

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NOARLUNGA COCO CLUB

MEETINGS
****

Next meeting will be held at Kevin's home on Wednesday 2nd Aug at 7.15 pm.
Address: 5 Pimela Rd.
Reynella
S.A. 5161

The Sept. meeting will be held at Wif's place on Wednesday 6th Sept at 7.15pm.
Address: 47 Hamilton Ave.
Warradale.
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ALL WELCOME. No joining fees or collections. For further details contact Robbie on (08) 386 1647

CLUB CONTACTS

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08 386 1647
Garry Holder
08 386 1139

BASIC & OS9.....Alex. Hartmann

OS9 User Group....Bob Devries
07 372 7816

Moe User Group....Joseph Hester
051 277 817
Ian Taffs
051 275 751

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

Simply Better

A Word Processor

SIMPLY BETTER. It seems an odd sort of name for a word processor but maybe it's apt because this programme is simply better than any other I have used. I must admit to not having done any in depth study of the other new Coco 3 word processors but I feel this one would be very hard to beat.

Firstly, the manual. This is a well turned out and well presented 140 page instruction book. The various chapters are easy to understand and nobody should have any difficulty in understanding them.

Next, let me describe briefly the configuration programme. This separate programme allows you to configure most options you prefer for use with the processor. It configures the codes for your printers various fonts and allows you to choose the background and print colours for each of them.
You set the page length, margins, justification and all the normal word processor user features in CONFIG.
There are default values incorporated in the programme which you can leave as they are if you wish. They can all be changed in the programme proper in any case.

Once you have configured the parameters to your requirements, you give your setup a name and save it to disk. You can CONFIG as many setups as you like and save them to disk under different names.This means that you can have pre-programmed configurations for different purposes. I find this feature very handy.
When you RUN"BOOT" you are asked which configuration programme you wish to use

One could use reams of paper to describe the workings of this programme but I think I will stick to the more outstanding features. It does all the usual things expected of a word processor like printing, block transfer etc. One pleasing difference from the Word Processors I have used in the past is that general codes for fonts etc. are not shown on screen as odd looking characters which upset the look of the page. It makes for nice clean viewing.

UNDERLINE
Underline is functional on screen. This definitely makes for better understanding of your text where the function is used. Text can be underlined at any place either in the overstrike mode or in the insert mode when you want to underline an already written section of text.

FONTS
The screen cannot show the different type of fonts on screen as they appear in print. What is done instead is to put each font in a different background colour so that you will recognise it on screen. You already picked out the colours you wished to use in the CONFIG programme. Using the different fonts is done by typing <F1> and the font number you require. <F1>0 returns you to normal font. As above these fonts can be inserted any time after the initial writing is done. The same rules apply as for underline.

WINDOW
A second Window can be made by going to the command mode and typing WINDOW. You toggle back and forward between windows by pressing the <CLEAR> key.
The second window can be cleared by returning to the command mode and printing WINDOW <ENTER>.

This second window can do all the things which can be done on the first window. You can even transfer blocks of text from one window to the other....A great feature when you want to use sections of a previous letter or article in your present text.

BLOCK MANIPULATION
Blocks of text can be manipulated in many ways. They can be moved, erased, saved or printed. The block marker is

placed before and after the section of text you wish to manipulate. This marker is <F1> B. As mentioned above blocks can also be transfered between the two windows using <CTRL> G.
Block markers after the cursor are cleared by <CTRL> Z.

PRINTING
Printing can be done in several ways. All the text in the buffer or only that appearing after the cursor can be printed.
There is also a Block Print function. This allows you to mark a block of text and send it to the printer. This is especially handy if you have been using several different fonts. You can print out that section and rearrange it till the different sized fonts match the justification of your existing text.

VIEW
The VIEW feature lets you see the page as it will appear in print.....Well nearly! It doesn't take different fonts into consideration and only shows them in the various colours chosen. You view the text with <CTRL> V.

TASKS
Tasks are another feature which in certain circumstances can be a great boon. A task can be saved to disk for use at a later date. To create a task type <CTRL> A. When asked to select task, enter a number from 0 to 9. At the command keys: you enter your task.
When you are asked number: enter the number of times you wish the task to be performed. Use the down-arrow after the keys section of the task.
A task can be as simple as up-arrow and the number of times to perform it or it can be as complicated as you want it to be.
Tasks can be saved to disk and used as neccessary.
This function may be a little hard to grasp at first but once learned it opens up a vast array of time saving devices.

TAB STOPS
TAB STOPS are set using <CTRL> T. All you have to do is place the cursor on the tab position you wish and use the above command. You then go to the next position you require and repeat the command.

NEXT NUMBER OUT
The NUMBER command can be very handy for various things but especially for writing parts of programmes in BASIC. First you must go to the command mode. Type in NUMBER, your first number, a comma then the second number, then <ENTER>. eg NUMBER10,10.
The command is called up with <CTRL> N.

TABLE OF CONTENTS AND INDEX.
A table of contents or an index can be created. This is achieved by placing the cursor where the item is applicable. A Contents Marker or Index Marker is then placed followed by the name of the content or word to be indexed. Press <ENTER> and you have recorded your content or word to be indexed.

One of the main differences between the two formats is that the table of contents is compiled in the order it is inserted into the text whereas the index is automatically sorted in alphabetical order.

There are several other rules to follow when using this feature but a careful read of the manual should make it very clear and easy to handle.
You can either have the table printed at the end of your text or use the IP (invisible print) function to leave it off.
Your table can be moved to the front of your text if you wish by using the block move feature.

SORT
The programme incorporates a sort routine so that sections of text can be sorted. This is handy for lists of names etc. Names can be added to the front of the list at any time and sorted.
The sort includes all font or other markers and therefore in some cases can be fairly slow. Still, I found it a handy feature for a straight name list. It could, of course, be used to write an encyclopedia.
Sorts begin with the first sort marker found after the cursor.

JUSTIFICATION
You can justify text right, left, centre or both left and right.
You can also set the maximum number of spaces you want between words. When you exceed this number you get a Justification space alert. This allows you to go direct to that line and hyphenate a word to close up the spaces to requirements.

OTHER FEATURES
There are other features such as:
Print Spooling....Printing out one file while working on another using the window feature.
Headers and footers etc. can be positioned where required.
Auto save.....Will save your file to disk if a key is not pressed for five minutes. This is optional like most features in the programme.
Mail merge.....Merge your file with a separate file list.
Pre-printed forms.....Set up TABS etc. to format your file to fill out pre- printed forms. This can be saved intact to disk for continuous use.
Hard drive supportive.
Locate and change text.....You can specify fonts, underline, words or anything you like.
Print odd or even pages.....great for using both sides of your paper.
Hearing impaired mode.....Flashing sign instead of beeper.
Compatible with other word processing programmes.....VIP at least. I have tried it.

Well there you have it.....or nearly all of it. There are still some features that I have not got round to utilising so far.

I cannot find much at fault with this programme. I can really only think of one thing that I would like to see which isn't there.....that is the ability to print in columns. Still, I don't suppose you can have everything.

Now for the good part! This magnificent package is obtainable for only $60.00.....YES, that's correct! A mere $60.00 for a package like this is a steal!

What more can I say!!!!

(SIMPLY BETTER is available exclusively from APD. See advert elsewhere in this magazine.)

AUSSIE PD - REVIEW
****

The following are a few excerpts from the US RAINBOW magazine of April 1989. This is from a review of a set of Public Domain disks for sale in the USA. The set is called the AUSSIE CONNECTION and consists of 6 disks all written in Australia

The comments are of interest for two reasons.:
1) The disks mentioned in the excerpts printed below were written by subscribers to COCO-LINK.
2) The programmes on disk 6, Australian Geography are available on COCO-LINK's first Public Domain Disk.

The Disk No.3 mentioned below was written by Johanna Vagg and Disk No.6 was written by Robbie Dalzell. I do not know who wrote the programmes on the other disks.

Here are the excerpts from the RAINBOW magazine review:

"Just remember that the English used is not American English. If you are told you will have ten 'goes,' that's 10 turns; even reading the text can be a lot of fun. For most of the files you can just type RUN"filename" or, in the case of .BIN files LOADM"filename":EXEC. Some of the files are intended to be run or used by another program, as with the excellant geography lesson files on Disk 6."

"On to Disk 3 we go. The first file, HEADS, is not a game of pictures of bathrooms for you sailors out there, but an information file about using the disk. Disk 3 has 30 PMODE picture files and a couple of BASIC programs to print the pictures as letterheads. The printer programs cover the DMP105, 110 and 130 printers and are written in BASIC. While I was not able to use the printer programs, the pictures are exceptional; in fact, I may write a driver for one of my three printers just to be able to use them....."
"Last, but not by any means least, is Disk 6. This disk contains a collection of five files that make up a geography program. GEOG can be used as a tutorial or quiz about Australia. The program uses PMODE3 for it's graphic displays and is well done. I found it both educational and interesting to learn about the Land Down Under. Text screens are used to give a lot of information about everything from rainfall to industry, while maps of Australia graphically show where these regions are located."

"On the whole I found the set entertaining, fun and educational. My personal favorites were the music, letterhead graphics and geography disks."

****
END
****

Coco 1,2&3 Cassette

2/3 Column LLister Cassette Fix

By

Robbie Dalzell

In the last issue of COCO-LINK Johanna Vagg requested that I do a fix for the 2/3 Column Llister, which appeared in the April edition (No. 2), so that cassette users could use the programme. I readily acceded to this request.

Putting it into action turned out a lot harder than first expected. After much experimenting I found that it required a whole rewrite of the load section of the programme. This in turn lead to alterations to various other sections.

The rewrite has had so much altered from the original disk version that I decided to reprint the whole listing rather than try to explain the individual changes.
I have also altered a few things which were written specifically for magazine use to make the programme more general.

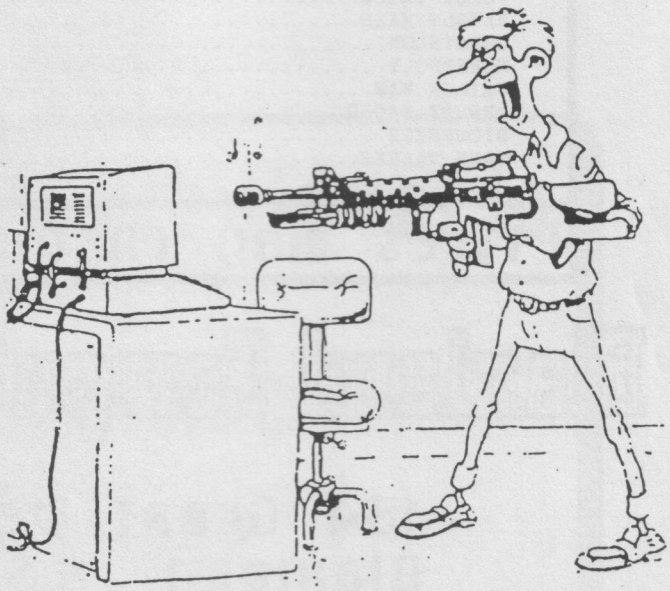
So there you have it, a 2/3 Column LLister for cassette users. Everything works as it did for the disk version and is very user friendly.

If I have learned one thing from this exercise it is this.....Don't be so quick to accede to requests!

Continued overleaf

LLISTER CASSETTE FIX

```
0 ' CASSETTE VERSION JULY 1989
1 ' **********************
2 ' * 2/3 COLUMN LLISTER *
3 ' *          BY        *
4 ' *      STEPHEN LAI   *
5 ' *         AND        *
6 ' *    ROBBIE DALZELL  *
7 ' **********************
8 ' * ADAPTED  SEPT 1988 *
9 ' **********************
10 CLEAR6000
12 CO=80:TM=3:NC=2:NL=55:IN=2:ST
=0
20 DIMPL$(175):AL=0:CN=1
30 CLS:PRINT@32," 2/3 COLUMN PRO
GRAM LLISTER":PRINT@104,"BY STEP
HEN LAI":PRINT@134,"AND ROBBIE D
ALZELL"
32 PRINT:INPUT"CONDENSED PRINT Y
/N";I$:IFI$="Y"THENCO=134ELSE40
34 INPUT"TWO OR THREE COLUMNS (2
-3)";I$:IFI$="3"THENNC=3
37 INPUT"NUMBER OF LINES (56=FUL
L) ";NL
40 PRINT"       INPUT THE PROGRAM
'S          TAPE SAVED (IN ASCII)
 NAME:"
50 LINEINPUTDN$
70 PRINT"INPUT THE PROGRAM'S FUL
L NAME:"
80 LINEINPUTNM$:LE=LEN(NM$):IFLE
>CO THEN70
90 PN=INT((CO-LE)/2)
100 PRINT"SINGLE-SHEET PAUSE  (Y
/N)?"
110 I$=INKEY$:IFI$="Y"THENSP=1EL
SEIFI$<>"N"THEN110ELSESP=0
120 CLS:LINEINPUT"INSERT TAPE AN
D PRESS PLAY THEN<ENTER>";A$
125 PL$="":F1=-1
195 OPEN"I",#-1,DN$
200 CLS:PRINT" LLISTING WILL BEG
IN/CONTINUE   BEFORE THIS NUMBER
 REACHES"NL*NC+1".":IFF1=0THEN22
5
220 INPUT#-1,RD$
225 IFF1=NL*NC THEN300
230 IFLEN(RD$)>32THENF1=F1+1:PL$
(F1)=LEFT$(RD$,32):RD$=RIGHT$(RD
$,LEN(RD$)-LEN(PL$(F1-1))):GOSUB
260:GOTO230
240 F1=F1+1:PL$(F1)=RD$+STRING$(
32-LEN(RD$)," "):GOSUB260
250 IFEOF(-1)<>-1THEN220ELSEST=1
:GOTO300
260 PRINT@109,F1:RETURN
300 IFSP=1THENGOSUB400ELSEIFAL=0
THENGOSUB410ELSEPRINT#-2:PRINT#-
2,STRING$(8,13)
305 FORF1=F1+1TO NL*NC:PL$(F1)="
":NEXT
310 CLS:PRINT"LLISTING..."
312 IFNC=3THEN316
313 PRINT#-2,CHR$(27);CHR$(19)
314 PRINT#-2:FORF=1TONL-B:PRINT#
-2,TAB(IN);PL$(F);"     "PL$(F+NL
):NEXT:GOTO330
316 IFCO=134THENPRINT#-2,CHR$(27
);CHR$(20) ELSEPRINT#-2,CHR$(27)
;CHR$(19)
317 FORF=1TONL-B:PRINT#-2,TAB(IN
);PL$(F);"          ";PL$(F+NL);"
          ";PL$(F+NL*2):NEXT
330 IFST=1THEN450ELSEF1=0:GOTO20
0
400 CLS:PRINT"POSITION TOP OF PA
PER TO PRINTERHEAD AND PRESS <EN
TER>.";:LINEINPUTI$
410 AL=1:PRINT#-2,STRING$(TM,13)
;TAB(PN);NM$:B=0:RETURN
450 CLOSE:CLS:PRINT#-2,CHR$(27);
CHR$(19):PRINT"THE ";NC;" COLUMN
 LLISTING IS DONE.PRESS 'Y' FOR
ANOTHER PROGRAM   LLISTING OR 'N
' TO STOP."
460 I$=INKEY$:IFI$="Y"THENRUNELS
EIFI$="N"THENENDELSE460
```



"Waddaya mean, user error!?"

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======== =========

1) Australian Geography (GEOG)
   General
   South Australia
   New South Wales
   Queensland
2) Australian Explorers (AUSEXPL)
3) Fractutor (FRACTUT)
4) Decimal (DECIMAL)
5) Spellit (SPELLIT)
6) Times Table (TABLES)

DISK 011 GAME
======== ====

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