Vol 2 Issue 3 May/Jun 94

COCO - LINK

A New Look For The Future

THE COLOUR COMPUTER MAGAZINE

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WITH

2 MEG OF MEMORY

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OS -9

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REMS RAMBLINGS

********** PIRATES **********

I know that Fred has spoken on this subject before, and I know that it has been mentioned numerous times in other publications, but I think it needs to be covered again and again until people start to sit up and not only listen but start to understand.

That pirating was going on in our CoCo community to the extent that it is, as I found out recently, left me speechless. People have been pirating programmes which are being sold for as little as $10. These same people are then complaining about the non-availability of good CoCo software.

This is not only happening here in Australia, in a recently aquired "package", I found a letter from a person here in Australia, which was addressed to a person in the States, thanking them for some pirated copies of some protected CoCo software, (by way of an IBM copy card).

In this package there was a disk containing not only the above mentioned letter, but also a comprehensive list of the software that had been copied and to whom it had been distributed. This list of names and programmes I am sending to the 5 still existing companies in the States for any legal action they may wish to take.

My message is very clear, if you have pirated software, then get rid of it, if you are thinking of pirating, DON'T.

If we expect companies to support our computer, then we need to BUY their products, NOT copy them.

Anyway on to other things, a number of you have been in touch with me with a view to obtaining software which is only available from companies in the States. Please be patient, I have contacted these companies, some of them many times by phone, but all we can do now is wait for them to actually send the product. I must admit that some of them are very slow or lax in this matter, however I have done all I can do.

**** A Change to our Deadline ****

Due to the varying delivery times by Australia Post of the magazine, I have decided to change our postage date to the 1st of the second month, (if all goes to plan) hopefully this will mean that you will receive CoCo-Link by the 15th.

********** Submissions **********

I recently had a call from a subscriber who indicated that he was not complaining, but, the magazine did not have enough small programmes for the novice to type in, in order to learn about the computer. It should be understood that I will print what is submitted. If I don't get submissions then the magazine will not contain what you want in this area.

If Fred were here all the time, then we could put a few more of these in, but he isn't so I am relying on you the subscribers to help me out in this area.

Please write and send in some short programmes so that all can benefit.

Along the same lines I must thank all those who have helped me out since Fred has been away.

Well thats about all I have got for now, please enjoy this my second attempt at producing CoCo-Link.

$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
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LETTERS TO THE EDITOR

Dear Fred / Ros

Thanks for the Jan/Feb copy as well as the Mar/Apr one, to keep my collection complete. Just a couple of comments on things from both. But first a comment on the new format of the mag.

I personally prefer the larger type of the previous style, which may be the age and eyesight factor. As to whether it is worth an extra $1 a copy is probably a matter of debate. For myself, I have been getting the Australian magazine since Greg Wilson started it way back and I expect I will continue to get it at anything short of an exhorbitant price, and $4 a copy is not at the level that would make me drop it. For an extra $1, you could probably put it in an envelope and post as normal mail anyway. So I guess I will go with whatever you decide anyway.

From letters in Mar/Apr

From Geoff Donges.

Taking it on face value, and assuming that the disks are for RS-DOS and not OS9, there is no incompatability in the drives themselves. If he is unable to read a floppy disk in one drive that has been written to by another drive, then the problem is with the mechanical alignment of the read/write head in one or both the drives. It may or may not be worth trying to fix that problem, depending if it is only a once up transfer required, or if he wants to do it on a regular basis.

It is possible to transfer data files between disks in the circumstances described, by holding the data in memory while he switched the multi pack. Possibly the easiest way to do this is with a program along the following lines

```
10 CLEAR 200,16000 'for a buffer space
20 K=0: L=16000
30 N$ = "FileName" 'for when reading source disk
40 N1$= "FileName" 'for when writting disk
50 INPUT "SET UP FOR SOURCE DISK & PRESS ENTER ";Z
60 OPEN "D",#1,N$,1 'open file on drive can read
70 FIELD #1,1 AS A$ 80 P=LOF(1) :R=0
90 IF P <= 16000 THEN 110
100 R=P-1600 : P = 16000
110 FOR X = 1 TO P
120 GET #1, K+X
130 POKE L+X, ASC(A$)
140 NEXT X :CLOSE
150 INPUT "SET UP FOR DESTINATION DISK AND PRESS ENTER ";Z
160 OPEN "D",#1,N1$ 'open file on new disk
170 FIELD #1, 1 AS A$
180 FOR X = 1 TO P 190 LSET A$ = CHR$(PEEK(L+X))
200 PUT #1, K+X
210 NEXT X: CLOSE 220 IF R < 1 THEN STOP 'Finished this file
230 P=R :\R=0 : K = K + 16000 240 INPUT "SET UP FOR SOURCE DISK & PRESS ENTER ";Z
250 OPEN "D",#1,N$,1 'open file on drive can read
260 FIELD #1,1 AS A$
270 GOTO 90
```

This sort of program will transfer a file of up to about 7 disk extents with a single disk change. Larger files will require multiple disk changes. If the data transfer is being done on the CoCo3 with 512K memory, then could do a large file in a single pass by changing the PEEK / POKE's to LPEEK / LPOKE's and using low memory for the data transfer buffer. (For LPEEK you need to separate the functions, ie replace line 190 with T=LPEEK(L+K):LSET A$=CHR(T). Given that the disk capacity for a CoCo is around 160K, he could do a complete disk at a time by using DSKI$ to read and DSKO$ to write a full disk at a time, and not have to worry about file names at all. The essential requirement is to simply hold the data in memory while he changes the disk drive connected through the multi pack.

The two different file names are used simply to allow for possible different drive numbers during the transfer. eg if reading from the second side of a double sided disks on the FD-502.

If the problem is one of transferring files from side 2 to side 1 of a floppy, and you only have a single drive (double sided), then the above programme will also work. If this is Geoff's problem, and there is no head alignment problem, then the TRS-80 drive can be connected to the same drive cable as the FD-502 (as drive 1), and he can then do a normal COPY file from drive 2 to drive 1. The differences in voltages (110 & 240) only applies to the power supply in the disk drive, it has no impact on the voltages out of the power supply. Given that the 110V must be coming from a transformer, there will be no difference in the cycle rate either.

With this setup, possible problems with terminator resistors can be minimised by putting the TRS-80 drive on the end of the cable, not in the middle, (ie as drive 1, not drive 0). The type of cable should not be a problem as they both sound like genuine Tandy cables. If the cable happens to have a connector that will fit either way, then if you get it wrong, the drive motor will come on when you turn power on and stay on. You fix this by turning the connector over. As an aside, the connector on Model 1 drives (which I assume the TRS-80 drive to be) are generally 'upside down' relative to CoCo drives, which just means you get a single twist in the cable.

Letter from Val Stephen:

If the problem happens exactly as described, then I would suspect a hardware problem, however there are a couple of situations that I am aware of that can cause similar

problems to arise. These are

There is a bug in Disk Basic 1.0 which can corrupt the FAT table if you are using more than one drive at a time. It doesn't happen very often, and shows itself as losing parts of a file when you read it back. For this to be the problem, it would only show itself when you loaded the program back from disk, it has no impact on a program in memory. This was fixed in the later ROM's. If you have 1.0 it shows itself as Disk Extended Color Basic 2.0 on the CoCo3.

If you press the RESET button to stop a listing that is being printed on the 40 or 80 column screen (instead of break) it can corrupt memory around Hex 2000 plus. Most Basic programmes have code here and hence get stuffed up. (It doesn't always happen, just sometimes - depending on where it is in the code at the time). This should not happen if you use BREAK to stop a listing.

Lose chips in sockets can cause funny intermittant problems. If neither of the above apply, I suggest you remove the cover and check that all chips in sockets are firmly pressed down.

From Jan/Feb

The SOURCE CODE listing in "Assembly Beginings" by Val Stephens, will not work if typed in as described. The code itself looks as if it is meant to be entered in edit mode in ZBUG (at address Hex 1000), rather than the EDTASM editor. This is not a good way to start with assembler as it requires the use of absolute address assembly which is not for the faint hearted.

The EDITASM editor source to enter for the function performed would be as follows, (after you enter "I" for "insert"). (Where the > symbol is used to represent the right arrow key, and an enter is required at the end of each line.)

```
START > LDX > #$400
> LDA > #$AF
L1 > CMPX > #$5FF
> BEQ > L2
> STA > ,X+
> BRA > L1
L2 > LDA > #$56
> STA > $50E
> LDA > #$41
> STA > $510
> LDA > #$4C
> STA > $512
L3 > BRA > L3
> END
```

Then press BREAK to return to the * prompt. The right arrow key (>) inserts a TAB, so the columns will line up on the screen).

However, if you actually type this in, I suggest you replace the last two lines with the following. (If you enter it "as is" you have to turn the machine off to get out of it).

```
L3 > JSR > [$A000]
> BEQ > L3
> SWI
> END > START
```

and then press BREAK to return to the * prompt

The "[" is obtained by pressing SHIFT and then the Down Arrow key. The "]" by SHIFT and then right arrow key.

After pressing BREAK, you can then enter A/IM for an assembly. When it assembles without any errors, you can execute it in memory, with the following steps.

Enter Z (ie press Z then enter) to go to ZBUG Enter GSTART (means start executing at label START)

The screen as described will be displayed. To exit and return to ZBUG, simply press any key. To return to EDTASM, Enter E. If you want to fill in that last character position on the screen, replace 5FF in the third line with 600.

The main differences between assembler Edit mode in ZBUG, and the EDTASM editor is that in ZBUG you can't use labels for addressing, and the default numeric mode is Hex (in EDTASM the default is decimal and you need the # to indicate Hex)

EDTASM ROM PACK ON DISK.

There is a well known patch available to convert the EDTASM ROM PACK to operate from disk (Provided by Roger Schrag). This was originally published in the Australian Rainbow December 1982. There was an enhanced version for a 64K machine published in December 1983. Shortly after the 1.1 disk ROM was released, there was an update for this rom also published. I've seen references to later patches to allow it to use 80 column screen on the CoCo3 as well, but have never bothered to chase this one up.

I have done the original 1982 patches for both ROM's, and am willing to provide copies to anyone who sends me a formatted disk with a reuseable mailer and return postage.

Given that this "note" has grown to a significant size, I will put it on a CoCo disk to send in, and will provide both versions on the disk, which you could offer to provide instead of me. While Tandy could have some copyright type objections to this offer, I don't think they would really worry at this stage. The instructions for producing it yourself are rather long.

Regards,

George McLintock

Thank you George for your "note", I am sure that the content will most definitely assist a number of cocoists. I must say I was relieved

when I saw the disk containing your missive, my typing fingers thank you. As for the EDTASM versions, by the time anyone reads this I will have been in touch with Tandy and cleared the air so to speak. If anyone wants a copy then as you said, a formatted disk with a return mailer is all that is required, (unless Tandy refuse to come to the party of course).

Ros

Dear Roslyn,

I wish to thank you for all the help you have given me in obtaining some hardware & software for the CoCo.

Just when I was thinking to send coco to its final resting place namely the garbage tip, a friend at work produced a subscription for a magazine called CoCo-Link. I subscribed and here we are. If I may I would like to say that without REMCOMS and CoCo-Link we would have kissed coco goodbye long ago, so please keep up the good work and keep COCO ALIVE.

My daughter, Katherine is using CoCoMax III & Max 10 extensively for school projects but thats another story, perhaps when we learn a bit more. THANKS AGAIN.

Bill Baldacchino

Thank you Bill for the kind words, I must say that both Fred and I know how you feel about the CoCo. It seems it was not that long ago that we had a choice of either giving up on the CoCo and finding another machine or doing something about it ourselves. I must say that letters like yours reinforce our decision to go it alone to support the CoCo. We are very glad to hear that you have kept your CoCo, just remember both CoCo-Link and REMCOMS are here to help.

Ros

Dear Ed,

Thank you for the good news that I won a prize in the programming contest of 1993. It is only a year or so ago that I have done anything but play games and as you veteran programmers will agree that the CoCo never really got the support to show the world just how powerful that this little machine is.

When you compare it with the 486 of today, I think it will still give the IBM a run for it's money.

A word of thanks for this magazine and I hope that it keeps going for a long time to come. Over the years it has helped me a lot.

John McNabb

Thank you John for your encouragement and faith in the magazine. We look forward to your next submission, I am sure it will be of the same calibre as the one which won a category in the competition for you.

Ros

Dear Fred,

Received your latest edition of CoCo-Link last week.

Firstly, congradulations to your wife on producing a fine edition - all by herself. Watch yourself mate, you just might lose your CoCo-Link job.

I am also writing because I hope to have an answer for Val Stephen's question in this issue (MAR/APR edition).

He says that he gets an SN ERROR in an unprogrammed line in some of his programmes.

Well, I've had the same problem, in the SAME line number that he has mentioned.

On looking through the listing of my programmes, I have found that I have missed putting a "H" in my HRES lines (HPUT, HGET, HPAINT, HLINE etc), - this throws the old CoCo into a real tizzy, and she gets very stroppy, and, just to pay you back, makes up a fictitious line number, with an SN ERROR in it for good measure. She may also put an impossible command in another line, eg - 600 DATA 300, 120 123666, 128 - which is impossible.

When this happens, it is no use correcting these lines, as when you list them in, and rerun the programme, lo and behold, they're back again.

The only thing I've found that seems to work, is write the lines with errors down on a piece of paper - SAVE the existing programme, then RELOAD it - LIST the faulty lines and correct them, and then try and RERUN the programme.

I hope you understand what I mean, as it is pretty hard to explain with my limited command of computer language.

Catch up with you later.

Graham Elphick

Thanks for your suggested solution Graham. Yours along with that from George McLintock, should help Val out of this predicament.

As for Fred losing his job with CoCo-Link, not until I get a bit more knowledgeable on the CoCo, remember I am still learning.

Ros

ASSEMBLY HELP

After reading the last edition of CoCo-Link and seeing the blunder in Val Stephens assembly language submission, I would like to say but two things.

PLEASE place a sternly worded warning that, ALL assembly works being submitted for publication for the purpose of an executable subroutine or system are to be submitted in UNASSEMBLED format ONLY.

Any novice who tried to enter an already assembled source-code would get virtually nowhere at the first attempt to reassemble a source-text. Such a mishap occuring so early could cause the said novice to;

1. give up on assembly in disgust, or,

2. give up on an otherwise truly wonderous publication.

(The blunder was not with Val's submission,but in the way that it was reproduced in the magazine. With my only limited knowledge I simply reprinted the routine. After reading your letter and that from George McLintock I now know what to look for and hopefully will not make the same mistake again. In any case what follows is a step by step set of instructions which should clear up any doubt in the minds of any novice who did try the listing with EDTASM+.)

STEP 1.

With power to the computer off, insert the EDTASM+ rompak into the rompak slot.

STEP 2.

Switch power to the computer on.

STEP 3.

Type I .. then tap the ENTER key.

STEP 4.

Remember NOT to type line numbers when using EDTASM+ as it has it's own line number generating system.

STEP 5.

Input the source-codes at this point, and until assembled, known as "assembly text" from Table 1.

STEP 6.

After you have finished step 5 and have tapped the BREAK key to return to the command level, type A/IM/A0 to assemble your text to the ORG address in memory, then tap the ENTER key.

STEP 7.

When the screen has stopped scrolling, tap the CLEAR key, then, type Z then tap the ENTER key, then type the ORG address, numbers only (see step 8a), then tap the / key. Continue to use the down arrow key, you are now inspecting "Assembly mnemonics", to enter any of the inspection modes after entering ZBUG, tap ENTER and then type any of the follwing option letters then tap the ENTER key;

M -- for mnemonic inspection
W -- for machine code inspection
N -- for numeric or single byte
E -- to re-enter the text editor,

If you are still in ZBUG mode and have entered an inspection option then the next thing to do is to select an address to begin inspection from.

STEP 8a.

Type in the inspection entry address, for example (1000) or (8BC5) or (C00E), then tap the / key. From then on inspection of the consecutive instructions is performed by tapping the down arrow or up arrow keys. Take care when using the up arrow key as your programme will appear to have misread. In the majority of instances if you have to have the cursor at an instruction or address that you have passed then tap the ENTER key and begin step 8 again. The exception to compulsory precedential address reentry is if you are in ...N... or, and with attention given to the addressing ...W... modes for the purpose of inspection of numeric data only.

STEP 8b.

If you have reentered the text editor mode then the only thing to do is type I then tap the ENTER key to continue inputting assembly text from, consecutively, the line after your last input assembly text line. A cautionary note at this point to indicate that if your last couple of lines contain an ending loop and an (END) of assembly-processing command (as in Vals lines 230 to 260) and your next input is to be assembled, with, the previous programme then the ending loop and the END of assembly-processing command must be deleted. To do this the letter ...D... is to be incorporated with the line number or line numbers to be removed from the programme. In the case of Val's programme... Type (D230:260) then tap the (enter) key... if only one line is to be deleted then type (D260) then tap the (enter) key... if the entire programme is to be deleted then type (D#:*) then tap the (enter) key. If all deletions are completed you may return to the first five lines of step 8b, the only exception being that if you have deleted a line, or, lines and wish to replace that line or lines then type (I230) then tap the (enter) key. If the error line... no room between lines... appears then decrease your line numbering increment by typing (I231), (I232), (I233) after you have entered each line of assembly-text, then tap the (enter) key. If again the error line... no room between lines... appears then type (N10,10) then tap the (enter) key. If all replacements are done then the

(clear) key can be tapped, type (P#:*) then tap the (enter) key, then type (I) and tap the (enter) key and continue entering data. To print your programme of assembly-text to screen in its entirety then type (P#:*) and tap the (enter) key... to clarify... the (#) symbol stands for 'beginning' or 'start'... the (:) symbol is a 'relational operator' and is used to indicate to the computer that the next command being entered at the command level will be dealing with more than one line... the (*) symbol stands for 'end'. A single line may be chosen to display by typing (P230) and tapping the (enter) key, a group of lines may be selected for display by typing (P100:200) then tapping the (enter) key.

STEP 9.

To execute your assembled subroutine you must enter ZBUG mode first by typing (Z) then tapping the (enter) key. If the error line... bad command... appears then you are already in ZBUG mode, simply, as with the examble of Val's programme, type...(G1000) then tap the (enter) key. To halt execution of a programme push the warm-start button at the right rear side of the keyboard. The address next to the ...G... command is the org or origin address of your programme, or, may be any address in memory that you wish execution of a programme to begin.

STEP 10a.

For the benefit of the CoCo 3 owners it is to be remembered that if the warm-start button is used while there is a programme in the text editor that programme will be lost. The remedy for this problem is to make a tape file of your assembly-text, before, you go to ZBUG mode. Make sure your CCR, tape deck is on, and in record mode. While you are in text-editor mode, and at the command level, type the write command followed by one to eight character filename(W JDOFILE) then tap the (enter) key, a prompt will appear, then tap the (enter) key again. Wait until the red light on the CCR is out before further use of the keyboard. The process for the reloading of your assembly-text file is as follows... ensure that your CCR, tape deck, is plugged into the cassette port at the rear right hand side of keyboard next to the warm-start, or reset button. Set your CCR, tape deck, to play mode. Set the keyboard to text-editor mode by tapping the (enter) key, typing (E) and tapping the (enter) key again, then tapping the (clear) key... type (L JDOEFILE), substituting your own filename for the example filename 'JDOEFILE', then tap the (enter) key. A prompt message will appear, tap the (enter) key, your assembly-text file will then be in the process of being loaded into the computer. When the cursor is again flashing without the 's', search, or 'f', found, prompt you may continue using the computer.

*** It is a good idea, although not compulsory, to make a tape file of all assembly texts, even if only for persual, addition to, reedition of, or reorganisation of, at a later date. If the operator feels the need, then a tape file can be made of the assembled mnemonics/machine-code by the following method...

STEP 10b.

Put the computer into ZBUG mode by tapping the (enter) key, typing (z) then tapping the (enter) key, then tap the (clear) key. Now... the syntax for a ZBUG save has need of a little explanation. (P JDOEFILE start address, end address, exec address) is the synatax. It is to be remembered that hexadecimal (binary) notation is used for the 'address', not decimal notation, as is used with the basic 'CSAVEM' command, although the syntax be similar. The example filename can be exchanged in this instance for 'VALSFILE', keeping in mind that the filename can be between one and eight characters in length. The first address may be the org or originating address of the mnemonics/machine-code subroutine after assembly...this being checkable by using the 'M' option and Step 8a in ZBUG mode... or, can be any known execution point in a programme in RAM... The second address is the end address of the subroutine or programme that is being taped...this address being found by using the 'M' option and Step 8a while in the ZBUG mode...the third address is the programme execution point...this address may seem to some to be excessive, however, to be considered is the instance of an option module being called by a programme already mid-execution, an interrupt vector or origin point, execution start point, is needed to inform the system what address to begin execution of the module from. Whenever I use this format I set the execution address to the same address as the start of programme 'org' address as I always use a register initialisation then a PIA set first. So, to sum up, and while the screen is clear, type (P VALSFILE 1000 J021 1000) then tap the (enter) key, a prompt message will appear, then tap the (enter) key again. The process for loading your machine-language/source code is a follows...make sure that your CCR, tape deck, is plugged into the cassette port at the rear right hand side of the keyboard and the CCR is set for play mode; tap the (enter) key, type (Z) then tap the (enter) key...if the error message...bad command...appears then you are already in ZBUG mode, continue by tapping the (clear) key then type (L VALSFILE) tap the (enter) key and after prompt message tap the (enter) key again. Wait until your programme has loaded then continue.....

```
**********************************

----------  TABLE 1----------

00100-->ORG-->$1111(E)
00110-->LDX-->#$4111(E)
00120-->LDA-->#$AF(E)
00130-->CMPX-->#$5FF(E)
00140-->BEQ-->*+$16(E)
00150-->STA-->,X+(E)
00160-->BRA-->*-$17(E)
00170-->LDA-->#$56(E)
00180-->STA-->$51E(E)
00190-->LDA-->#$41(E)
00200-->STA-->$511(E)
00210-->LDA-->#$4C(E)
00220-->STA-->$512(E)
00230-->NOP(E)
00240-->NOP(E)
00250-->BRA-->*-$12(E)
00260--END(E)
00270(B)

**********************************

EXTRA SYMBOLS USED:-

--> ... Right Arrow
(E) ... Enter Key
(B) ... Break Key

**********************************
```

The step by step instructions above were submitted by an "Interested Reader". I hope I have got them printed correctly, because, as I said earlier, my knowledge of assembly is only that it does exist.

The response from Val's original submission, prompts me to ask if there is someone out there who is knowledgeable enough in assembly, and can find the time, to write a column along the same lines as the one being done by Fred for BASIC, for those who would like to start into assembly. Obviously there is the interest, just as obvious there is a reluctance by many to begin due to the lack of knowledge.

****

BACK TO

BASICS

by

Fred REMIN

****

Last issue I covered quite a bit for new users of the Colour Computer, starting with how to load and save a programme from tape or disk through to starting you onto writing your own programmes. Just one thing that I omitted in the segment about I/O errors with a tape system, if the remedies that I gave you still do not work, then it would be advisable to get the head of the tape deck aligned by someone. Either the Tandy service department or their equivalent elswhere.

** Writing Programmes **

In preparing to write this the next segment of Back To Basics, I reread the last installment and there glaring at me from the page was a question that I had failed to address. The simple statement "we must now decide what we want the computer to do", sent my mind back to 1984 when I first purchased my 16K CoCo 2. There I was staring at this powerful machine and thinking, "well what do I want it to do for me".

My naive answer to myself went something like, "First I want it to wake me up in the morning after having started the toaster and the coffee pot, it should have also at this time turned on the iron to do my uniform and woken up the kids to get ready for school. Next it should be able to keep track of all my phone calls, bills and their payments, mileage on the car and service details, keep track of all my appointments, make a shopping list for my wife each fortnight and keep track of our bank accounts every payday. It should also be able to keep track of everything we own in the form of an inventory, complete with updates and prices. Not to mention a database of all phone numbers which it can dial automatically whenever I think about making a phone call."

Do you get the idea? In my naivity about computers I was expecting my little 16K machine to be able to run my life for me without me lifting a finger and not only that I should be able to get it to do all this by simply coming up with one or two lines of programme from the basic manual.

Well I very quickly learned that, yes, the CoCo can do all these things (within reason), but it will take some thought and work on my part, but where do I start. The answer;

1. I can buy a commercial programme for each job that I want the computer to do, or

2. I can try to write a programme from scratch to do the job, or

3. I can use the ideas of others and then change them to suit my needs.

I found, and I think that you will do the same, that the best way to go about it was answer number three, and this was achieved with invaluable assistance from two types of publication, the first was the manual that came with the system and the second was magazines dedicated to the CoCo. Some of the magazines at the time were, CoCo, Softgold, Australian Rainbow, Nico and American Rainbow.

So, now for the nitty gritty, have in the back of your mind what you want the computer to do but temper this with a little constraint, be realistic. Next, see what the computer CAN do. HOW? Firstly the manual, read it from cover to cover, read it again while experimenting, then type in the programmes at the back and see how they work and why they work. By taking this step first you will get a good idea of what the computer is capable off and how you go about getting it to do it, not only that but a very good understanding of the available commands and how to use them will be obtained.

Next the magazines, not only CoCo-Link, but get hold of those back issues of the ones I mentioned above plus some others like Hot CoCo, 68 micro's and others dedicated to the CoCo. Start with the short programmes that are listed and type them into your computer, you will more than likely make mistakes while doing this and by doing so will learn how the programme works and how to fix the problem (debugging). By the way, back issues of these magazines are available from REMCOMS, (a little plug there).

A word of advice at this stage, do not try to do it all on your own, there are people who can help you as you go along. For example, there is a list of users who are willing to help in the back of this magazine, there are also user groups around the country who are more than willing to help and of course you can always give me a call or drop me a line.

By this time, a few weeks or even months down the track, you should be becoming quite profficient with the BASIC language of the computer, (as well as the language of swearing in frustration). DO NOT become discouraged because it will not happen overnight, remember that professional programmers spend years at university and then months or even years on one programme before it is ready for release to the public.

Now lets go back to the original question, "what do I want the computer to do"? In this case lets

say that you want it to be a database for phone numbers and addresses. You still use the process that I explained in the last article, however, this time you are more prepared.

Once you have decided exactly how you want this programme of yours to work, then you can utilise all the knowledge that you gleaned out of the last few weeks or months of typing in and debugging programmes from the magazines.

By taking some of the routines used by others to do a particular task and then changing it to exactly what you want it to do, you will very quickly come up with your very own programme custom made for your needs.

** A WORD OF WARNING!! **
If you use someone elses routine in your programme then you must remember that the original person has the copyright to that code. ENSURE that if you are going to publish or sell the programme that you either check with the originator to see if he/she is happy for you to do so or if they can not be contacted, then give them recognition either in the programme itself or in the instructions etc for it.

For example you could put in a line like;

10 REM Original code by Joe Bloggs 1984
20 REM Updated and changed by me

or,

as I said put the recognition in the instructions with the programme.

By using the above procedure you will learn a great deal more about your CoCo and how it works compared to simply buying a commercial product and then adjusting your needs to what it can do. You will also learn about computing in general, more so than someone who uses that other system 'messyDos', which does no more than teach you to push the right button and how to buy the extra cards needed to run anything worth while.

This does not mean that you will not need to buy commercially available products, no way. A spreadsheet programme for example would be horribly slow and unwieldy if it were written in basic compared to one obtained commercially and written in assembly.

Oh, and by the way, don't forget to send your masterpiece to this magazine for publication so that all cocoists can benefit from your work, just as you have done from the work of others.

Happy computing !!!

** Where to from here **

As Ros said in the last issue of CoCo-Link in her ramblings, I will be spending a great deal of my time in the scrub in Tully without access to my CoCo, so there may be some issues of CoCo-Link without this article. I will however still produce it as time permits. What I would like to know however is where do you, the new users and novices, want me to go from here, are there any specific areas that you would like me to cover or are you happy for me to simply keep going as I am, giving you information as it comes to mind.

This column will be worthless unless it is teaching or informing you about subjects that you require, to that end I need to know what you want me to cover and in what detail.

I would also be greatful if someone with more knowledge than myself about the CoCo and programming, (which would not take much), could find the time to take over from me writing this column. This way we could ensure that it does appear in each issue of the magazine, rather than on an as can basis due to my prolonged abscences. How about it gurus?

Well that's about all I have got for this time, remember again that nothing can replace you physically going through the manual supplied with your computer and the best source of background and up to date information comes from this magazine and back issues of those that I mentioned above.

So, until next issue, happy cocoing!!!

****
----------XENION----------
****

See the review by Val Stephen in the last issue of CoCo-Link. This is an Australian produced arcade type of game for the CoCo 3.

Available from:
REMCOMS
100 Whitsunday Dve
KIRWAN QLD 4817
Phone:(077) 734 884

Price: $30 + $5 pp

****

<><><><><><><><><><><><><><><><><>
<>--------RUPERT RYTHM----------<>
<><><><><><><><><><><><><><><><><>

Another Australian arcade game for the CoCo 3. The graphics in this game are of the top order as are the sounds that are produced during game play. If you like a challenge then this one is for you.

Available from:
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Does carry a full variety of indepth articles and reviews.
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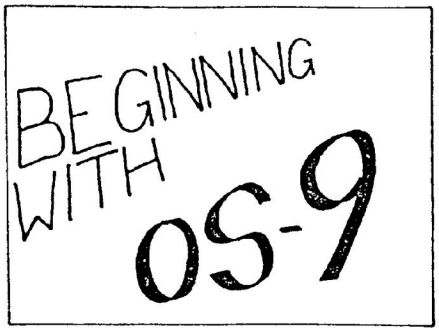

BEGINNING WITH OS-9

Multi-Vue: Yes, it CAN be made to work properly!

Multi-Vue is a bit disappointing on first blush. After struggling though the official install process a few times, one ends up with a painfully slow programme that can't find it's own icons, doesn't seem to add very much to the enjoyment of COCO, causes telecom problems, and doesn't even recognise most of the programmes you own anyway. Some folks refer to it as Multi-Vue! In large part, all of these problems are correctable. Some aren't really problems, but you know how I feel about Tandy manuals!

First things first. MVue (Multi-Vue) will install itself. Sometimes. Doing it manually is no big deal-just replace grfint with windint and add w8-w15 to boot. The rest is just file copying.

As usual, one of the early steps to easier living is having the latest versions. GShell is now up 1.5, (adds double wide icons on 80 column screens) but 1.24a can also be considered current. As with most system patches, a BBS or Patch OS-9 disk will soon have the upgrade in your hand.

If you've been putting off speedup patches like 'Christmas GrfDrv' or even 6309 native mode, by all means reconsider - all GUI's (graphical user interface, or 'gooey') require tons of CPU power. My MVue isn't as greedy as most, but CoCo doesn't have any spare.
programme gets the correct screen,

The biggest factor is disk speed. MVue wants you to go buy that hard drive-the faster the better. Since it runs exactly as fast the drive, the 5 times speedup is, shall we say, noticeable. If you have to use floppies, make sure they all step at 6ms, and make the largest drive you have /d0. You aren't supposed to run those 5.25 inch distribution disks anyway. You'll need that big disk to avoid the problem we now address by digression....

Disk Organisation

In the early days of personal computers, disk organisation was simple. A programme fit on a floppy disk, while it's data either went to that same disk, or a special data disk mounted in another drive. Each programme disk had 100% of the code needed to perform it's task, usually as a monolith referred to as a 'programme' (Disk Basic assumes this sort of organisation).

As PC's got bigger, some of them adopted more advanced operating systems from real computers. These systems require a little more organisation than 'run whatever comes off floppy one'.

Enter the tree. Many have described OS-9's hierarchal directory structure at length without really emphasising one very important fact - we are talking about one tree here.

That's hard to do on small floppies. We do have an advantage - two trees (bushes?) are allowed. OS-9 separates it's system path from the users data path (chx, chd) and allows them to exist on separate devices. Since the chx side can also be loaded into ram, we can double the size of that tree by preloading the box. Remember merged utility files? The personal OS-9 Tandy shipped can be reduced to one 24K file (dsave and os9gen get pushed off to disk).

Go ahead and load the most used apps from the mother of all start-ups right on the boot disk. Leave about 200K for running things. All this loading does take time - my old floppy boot used about a minute flat. But it frees up/dd for the important stuff. One disk swap and click 'set execute' (to log in the new disk) adds just enough room to run a small OS-9 system the right way.

A MVue dd (default drive) disk is easy to make up: format a new disk, then makdir CMDS, CMDS/ICONS, and SYS. Grab your favourite floppies, and dsave their cmds and sys dirs (chd/d0/cmds;dsave/d0/d1/sys cmds!shell;cmd/d0/sys;dsave/d0/d1/sys!shell). Just keep piling stuff on. Delete all the stuff you already load at boot from cmds. Now you can organise data disks in anyway. Instead of a Dynastar disk, a Supercomm disk, and a Dynacalc disk, you might prefer bowling league, personal letters, and taxman disks.

There maybe files that have to go on the data disks as well, for example Dynacalc's .trmfile. Sometimes (as in this case) there is a patch to move them to the 'normal' spot in /dd/SYS....sometimes you have to grin and bear it.

To recap the basic scheme, we have /dd/cmds full of executables, and /dd/sys full of info - any programme that needs to know details of the system it's running on can store a file with this info in SYS. All That's missing in this arrangement is a way for the system to know about the programme.

AIF Files

Multi-Vue's secret weapon is the AIF file. By specifying window type, size and colour each programme gets the correct screen, and the addition of an icon makes

these files appear as pretty little clickable things - very nineties. But more importantly, these files assign each application a 3 letter extension. When MVue spots a data file with a known extension, it gets the pretty icon that allows two clicks to open a new window, launch an application, and load the file.

It would be nice (and fast) to have these AIF's and their icons in RAM, but that would be a terrible thing to do to a 256K CoCo. Still, they can't be loaded every time they are needed - not only would floppy systems stop cold, an AIF would have to exist in every directory for every possible application. And copying a file could easily separate it from it's identifying AIF.

The best compromise is used. AIF's are stored on the fly - as you move down through a disk, the number of stored AIF grows. They aren't wiped until a new device is mounted (using drive icons at left).

This can be used to your benefit. For example, now that I find myself writing quite a bit, the old WRITE directory has grown lots of subdirs - CONECT, HUMOR, TW68M, and the like. Some of these have their own subdirs - putting a dynastar aif in each of these would make for about 75 copies. Since I have to move through WRITE to get to any of these would sub-sub-sub directories, AIF.doc goes in WRITE.

The possible conflict is obvious. If you have 2 programmes that both create xxxxx.cal files they can't both use the same data dir. There is another - can you figure it out?

Clue: 1. (essay) Given the starting point/h0/usr/tcom/dearc, is there any difference between a) clicking on the close dir box that starts the pathlist display 3 times, or b) clicking the /hoicon? Explain.

Your job as system administrator is to build and cleverly place these aifs so a user won't be faced with unresolved conflicts. Even if you are the only user. Face it - sometimes it's fun to muck with OS-9, but sometimes there is a job to do. When I'm working on the CoCo, I don't have time to work on the CoCo!

Here are some stupid AIF tricks:

1. Capitalise the AIF in aif. True, either way works, but sort puts capitals first, so your aifs join directories in rising above the 387 fttthhhpppt.dat files to the first screen.

2. Use the implied runb call. Although stock MVue forces you to aif packed basic09 as programme=runb with parameters=packedcodename the newer versions allow programme=packed codename. This puts the name of the file under the icon, instead of just 'runb'.

3. Here are a couple aif's you might not have thought of:

a. AIF.sh1(80x24 text screen with shell)

```
shell
iconcs/icon.ops
0
7
80
24
10
```

b. AIF.b09(80x24 text screen with Bacic09, 32K work space)

```
basic09
#32k
icons/icon.ops
128
7
80
24
10
```

If you want to extend the concept further, it's possible to run Multi Vue from Multi Vue! You may get an error message, but clearing over will show another gshell running. Don't worry if it shows a 'deadgshell' bar - clicking in the correct location will not only pop down the menu, but restore that part of the menu bar to normal. There is a trick to this. The first copy of MVue has to be already running - else the 'deadgshell' bar is truly dead.

ICONS

MVue is pretty boring without some extra icons. There are two ways to get them - more and more apps are including icons and aifs, plus there are other canned aif/icon sets available from bbs and patch disks. The best solution, though, is to grab one of the public domain icon editors. There are many - it seems every new graphics library comes with an icon editor as demo. There are also plain-jane editors....any will do fine since making icons is a simple task.

I see a pattern developing here...Operating System Nine has become the first column to feature it's own disk of the month. If you can't easily get these editors and such easily, send 5 bux (US) and I'll fill up a disk with stuff - premade icons, AIF's for common programmes, an icon editor, etc.

STARTING UP

The stock issue Multi Vue disk takes advantage of OS-9's start up sequence by using the key name autoex. All they did was copy multistart autoex. If you'd rather it didn't autostart, delete autoex from you boot disk. To save typing, I've renamed multistartMVue, and typing MVue in any shell (even a hotkey shell in gshell) fires up another one.

Even if you NEVER run MVue, you'll want to use control to set up the system. Control sets palette hues, montype, mouse screen res and port, key repeat incept and speed - all with a click. Begin your startup file with control -e. Those clicks become system defaults - even for windows launched in startup. For what MVue brings today, it's worth buying just for control.

OPERATING

The easy part. If set up properly, there isn't a lot to add beyond point and click. There are a few quirks, however.

It's handy to have at least one text shell around. Other than with a shell aid, there's no other way to get a fast text shell from Multi-Vue. It's also nice to have a different stdfont, so a quick glance reveals window type - some programmes you just don't run in a gfx window. Even accidentally.

If you don't have aifs in every directory (likely), catch-14 (thats the chicken/egg thing) will byte. If there was just a xxxx.doc file here I could click it and run Dynastar, which is needed to make xxx.doc. Is up a shell, and use edit xxxx.doc; space enter; q. Creates a file of one space char with the magic extension. Exit then re-enter the dir to get the icon.

To avoid the problem and speed up operation, make creation directories. For instance, when I get a hot new idea, I chd to WRITE. All thats in write are AIFs and the subdirectories where the data is eventually filed, so it comes up fairly quick and I can get to work. At the end of the day the file gets copied to the much more jumbled subdirs.

The exact opposite problem - if a data file ends up with a 'known' extension, many of the file own' utilities (like print file) won't work since the data is now linked to an app. Usually the easy way out is copy file to root, click drive icon to move to root and flush AIFs.

Running two shells lets you look at both ends of a disk copy, but don't chd both gshells at once to dirs on the same disk. It will eventually get done...the key word here is eventually. Good stepper motor tests, though.

We have reached a watershed. Multi Vue marks the end of our blitzkrieg dash through OS-9. Hopefully it now 'begins' pretty much automatically when turned on, and we may concern ourselves with doing useful work. So, wrapping both hands around Frank's throat and jumping about a bit (difficult via email), I calmly convinced him to change the title to Operating System Nine (editor: In the NEXT issue! I told him AFTER he finished the basics, not NOW! This is what I get for using stubborn egocentric writers...at least he CAN write...).

With the title change comes a new skitzoid format. Instead of a topic an issue 'Operating System Nine' will serve up a little bit of everything. Obscure details of an application you don't own make terrible reading so we'll keep it short. At the same time we can fill out our bag of system tricks a trick at a time. I'd like to hear from you. Got a neat system trick? Persistent problem? Write!

Rick Ulland can be reached in care of this magazine, via EMail (Delphi:rickuland;Internet:rickuland @delphi.com or US mail at 449 South 90th West Allis, WI 53214. Feel free to send questions or comments but include SASE if expecting a reply.
(Reprinted by permission from '68 micros' Vol 1. No. 5

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NATIONAL OS-9 USER GROUP.

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The National OS-9 User Group is based in Brisbane Queensland and caters for those CoCo users who are well into OS-9/OSK. They produce a monthly newsletter and have an extensive library for the use of members.

Subscriptions to the newsletter are $18 per year (the same as CoCo-Link, and at this price is well worth it if you wish to keep up to date in the world of OS-9.

The National OS-9 User Group can be contacted by phone or mail as follows:

Gordon Bentzen (07) 344 3881

Don Berrie (07) 375 1284

The Editor

Gordon Bentzen
8 Odin St
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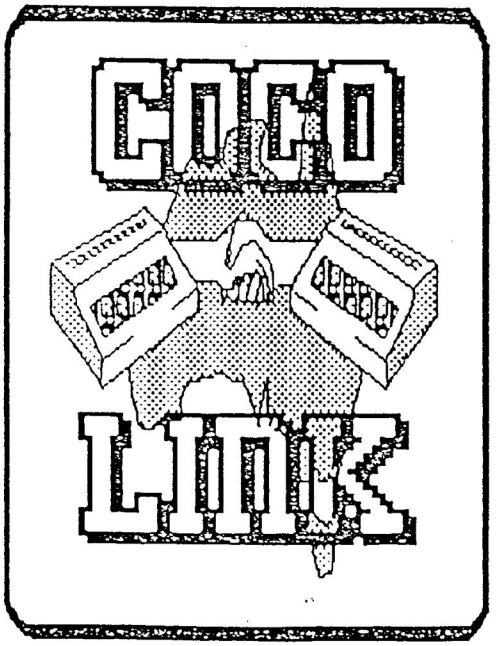
****



PRINTOUT BY J. MCNABB

The following is a short and usefull utility from the pen of John McNabb. It makes it easy to get a quick printout either to screen or to the printer of a document from a disk without the need of loading in a word processor. Again this would be very usefull for the novice programmer to see how it is put together.

Keep them coming John.

```
10 'THIS PROGRAM IS WRITTEN BY
MacGULLY SOFTWARE
20 'P.O.BOX 109 BORONIA VIC 3155
30 ' AUSTRALIA
40 'TO READ ASCII FILES AND PRINT
THEM OUT
50 'YOU WILL FIND THAT IT SAVES
LOADING UP A WORD
60 'PROCESSOR TO READ A LITTLE DOC
OR TXT FILE
70 ' 6 FEB 1994 V2.0 GOOD LUCK !!!!
80 ' IF YOU LIKE IT THEN DROP ME A
LINE
90 ' I NEED THE ENCOURAGEMENT TO
WRITE MORE PROGRAMS
100 HSCREEN4
110 HCOLOR5,3
120 HCLS6
130 HDRAW"BM30,56;U40;R15;F20;E20;
R15;D40;L15;U22;G10;L18;H10;D22;
L17":' M
140 HCIRCLE(135,47),20,5,1,.15,.85:
HCIRCLE(135,47),10,5,1:HDRAW"BM145,
54;D2;R9;U18;L9;D2":' A
150 HCIRCLE(190,47),20,5,1,.1,.9:
HCIRCLE(190,47),10,5,1,.1,.9:
HDRAW"BM198,44;R2;U2;R3;U2":
HDRAW"BM199,50;R2;D1;R3;D1":' C
160 HCIRCLE(260,36),27,5,1,.1,.9:
HCIRCLE(260,36),41,5,1,.04,.9:
HDRAW"BM299,38;L35;D6;R14":
HDRAW"BM281,27;R1;U1;R2;U1;R2;U1;
R2;U1;R2":'G
170 HCIRCLE(350,39),20,5,1,1,.5:
HCIRCLE(350,39),35,5,1,1,.5:
HDRAW"BM315,39;U23;R16;D23":
HDRAW"BM369,39;U23;R16;D23":'U
180 HDRAW"BM402,16;D40;R50;U8;L34;
U32;L16":'L
190 HDRAW"BM470,16;D40;R50;U8;L34;
U32;L16":'L
200 HDRAW"BM530,16;R16;F17;E17;R16;
G56;L500;E5;H5;R492;E21;H25":'Y
210 HPAINT(32,50),3,5
220 HPAINT(147,53),3,5
230 HPAINT(197,41),3,5
240 HPAINT(275,24),3,5:HPAINT
(320,35),3,5
250 HPAINT(405,20),3,5: HPAINT
(473,20),3,5
260 HPAINT(538,17),3,5
270 HPRINT(29,8),"MacGULLY SOFTWARE
(C)"
280 HPRINT(31,11),"P R E S E N T S"
290 FOR M=1TO400:NEXTM
300 HPRINT(21,14),"THE MacGULLY
PRINTER UTILITY V2.0 "
310 HPRINT(29,16),"TO PRINT AND
VIEW "
320 HPRINT(25,18),"YOUR TEXT AND
ASCII FILES "
330 PLAY"V31T5L4O2FB-O3DFL8FFL
4FDL8DDL4DL4O2B-O3DO2B-L2F"
340 FOR M=1TO1000:NEXTM
350 CLS3
360 WIDTH80:RGB
370 CLEAR 10000
380 ON BRK GOTO 900
390 IF ERLIN=330THEN870
400 CLS3:PALETTE2,9:PALETTE3,54
410 LOCATE21,0:ATTR2,4:PRINT" THE
MacGULLY PRINTER UTILITY V2.0
";:LOCATE19,23:PRINT" PRESS BREAK
KEY FOR DISK DIRECTORY ";
420 LOCATE13,2:ATTR0,5:PRINT" LETS
YOU PRINT FILES TO SCREEN OR
PRINTER OR BOTH ";
430 LOCATE21,4:ATTR0,3:PRINT" FILE
NAME AND EXTENSION
";:INPUTF$:LOCATE62,4:ATTR1,2:PRINT
" "
440 LOCATE23,6:ATTR0,3:PRINT" WHICH
DISK DRIVE NUMBER";:GOTO800:
PRINTD$: LOCATE53,6:ATTR1,2:PRINT"
"
450 LOCATE51,6:PRINTD$;:PRINT"
";:ATTR1,2::LOCATE25,8:ATTR0,3:PRIN
T" SEND FILE TO PRINTER <P>";
460 LOCATE25,10:PRINT" PRINT FILE
TO SCREEN <S> ";:ATTR3,2
470 PRINT,,,," ";
480 ON ERR GOTO 870
490PR$=INKEY$: IF PR$="P"THEN 510
ELSE IF PR$="S"THEN PRINT"S":
PRINT:GOTO 660
500 GOTO480
510 PRINT"P":PRINT
520 PRINT," PRINTER BAUD RATE
?":PRINT
530 PRINT,"<1> 300 BAUD","<2> 600
BAUD"
540 PRINT,"<3> 1200 BAUD","<4> 2400
BAUD"
550 PRINT,"<5> 4800 BAUD","<6> 9600
BAUD"
560 LOCATE14,21:ATTR2,3,B:PRINT"
PLEASE CHECK THAT YOUR PRINTER IS
SWITCHED ON ";:ATTR3,2
570 '
580 A$=INKEY$:IFA$=""THEN580
590 IFA$<"1"ORA$>"6"THEN580
600 PRINTTAB(36);A$;
610 A$=MID$("300 600
1200240048009600",
(VAL(A$)-1)*4+1,4)620
A=INT((55930/VAL(A$))-4.5)
630 POKE 149,(A/256)AND &HFF
640 POKE 150,A AND &HFF650 CLS
660 OPEN"I",#1,F$
670 CLS
680 IFEOF(1)THEN 740
690 ON ERR GOTO 740
700 LINEINPUT#1,TEXT$
710 PRINTTEXT$
720 IFPR$="P"THENPRINT#-2,TEXT$
730 GOTO 680
740 CLOSE :ATTR0,3:PRINT" FINISHED
:- PRESS -ENTER- TO START AGAIN "
750 PRINT:PRINT" PRESS < Q > TO
QUIT TO BASIC ";
760 Q$=INKEY$
770 IF Q$=CHR$(13)THEN350
780 IF Q$=CHR$(81)THEN890
790 GOTO760
800 D$=INKEY$
810 IFD$="0"THENDRIVE0:GOTO450
820 IFD$="1"THENDRIVE1:GOTO450
830 IFD$="2"THENDRIVE2:GOTO450
840 IFD$="3"THENDRIVE3:GOTO450
850 GOTO800
860 STOP
870 CLS8:LOCATE21,10:ATTR0,7:PRINT"
- < FILE NOT FOUND. TRY AGAIN.> -
";:SOUND110,8:SOUND80,8:FOR M= 1 TO
900:NEXTM
880 GOTO 350
890 POKE 113,0:EXEC &H8C1B
900 CLS:LOCATE21,0:ATTR2,4:PRINT"
THE MacGULLY PRINTER UTILITY V2.0
";:LOCATE21,3:ATTR0,3:PRINT" TELL
ME THE DRIVE NUMBER FIRST ?
";:GOTO920:PRINTC$:LOCATE53,3:PRINT
" "
910 CLS:LOCATE21,0:ATTR2,4:PRINT"
THE MacGULLY PRINTER UTILITY V2.0
";
920 C$=INKEY$
930 IFC$="0"THEN X=0:GOTO990
940 IFC$="1"THEN X=1:GOTO990
```

```
950 IFC$="2"THEN X=2:GOTO990
960 IFC$="3"THEN X=3:GOTO990
970 GOTO920
980 STOP
990 LOCATE21,0:ATTR2,4:PRINT" THE
MacGULLY PRINTER UTILITY V2.0
";:LOCATE20,3:ATTR0,3:PRINT" PRESS
-ENTER- TO START AGAIN
";:PRINT:PRINT
1000 POKE&HFE04,0:DIRX:
1010 ON BRK GOTO350
1020 INPUTQ:GOTO350
```

****

P. C. C. C

Peninsular Colour Computer Club

****

The PCCC is a user group which could arguably be the longest running CoCo user group in Australia. The club has been going stong for 11 years that I know of and is still a plathora of information for the CoCo.

They are based on the Mornington Peninsular in Melbourne and can be contacted by phoneing:

Greg MacKenzie (059) 838 991

Bob Charleston (059) 791 922

Stan Blazejewsli (03) 580 4605

****

HARDWARE

CoCo3 (512K) x 1
DMP106 printer (9pin) x 1
Serial/Parallel Interface x 1
DS drives (no controller) x 1
DS drives 3.5 in 5.25 (shell) x 1
(for OS9/ADOS)
RS232 controller & cable x 1
CoCo Keyboard (bare) x 3
Speech Pak x 1
Orchestra 90cc x 1
CM8 monitor x 1
Bare drives 5 1/4 x 2
Joystick Interface x 2

CoCo3 (128K) x 1
Multipak Interface x 1
DS drive (complete) x 1
Power Pack 200w x 1
CoCo XT-RTC Harddisk controller x 1
Serial Cable x 1
D/Drive cover x 1
Cassette cover x 1
Joystick (black-pair) x 1
Delux joystick x 1
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SOFTWARE

OS9 Lv 2 x 1
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OS9 Multivue Canvas x 1
OS9 Develp Sys x 1
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Cook Book x 1
Max 10 x 1
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Mailing List x 1
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OS9 DL Logo x 3
OS9 Lv 2 Calligrapher x 1
Forth(C2 & C3) x 1
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Color Artist x 3
Zone Runner x 1
W.I.T.W.I.C.S x 1
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Flight Sim2 x 2
Kings Quest 111 x 3
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CoCo Design Graph x 1
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Six (6) boxes of disks most D/sided full of different programmes.

CoCo Link magazines up until Dec 93
CoCo Softgold - AUST Rainbow - US
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Price: The LOT $800 O.N.O

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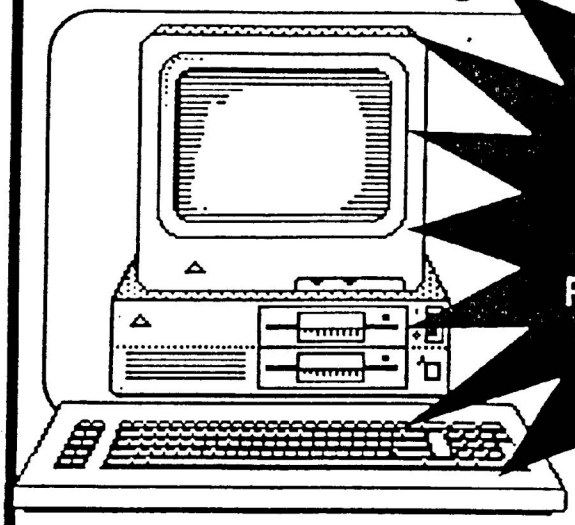
Mr Wally Dunn
2 / 10 Taranto Rd
MARSFIELD NSW

Phone: (02) 868 2759

COCO FRIENDS DISK MAGAZINE

"The most exciting new product for the CoCo Since....?"



COCO FRIENDS DISK MAGAZINE (CFDM) is devoted exclusively to those who still enjoy running under RS Dos. The standard system needed to use CFDM is CoCo 3, RGB monitor, at least one disk drive, and the RS Dos which came with your CoCo 3.

CFDM is a monthly disk based publication which is produced on a "flippie" disk. When you "Run" the "magazine" side of CFDM, you'll be greeted with a beautiful cover picture by CoCo Friend James Gibbons. Pressing any key takes you to the magazine's colorful Main Menu. There you'll find 14 sections which are filled with entries. Sections included are: About CFDM; About this Issue; Active CoCo; Advertisements; CoCo Friends Art Gallery; Articles of the Month; Family Tree; Forum; From the Editor; Letters to the Editor; Potpourri; Programs of the Month; Reviews; and Question & Answers.

Next you will enter a Section and find a number of entries written by our CoCo Friends from all over the world. Each issue of CFDM contains from 60 to 80 entries. Some sections contain documentation about the many programs and graphics found on the "flip-side" of CFDM.

The "flip-side" or "program" side of CFDM is filled with contributions of wonderful programs and graphics from our many CoCo Friends! Each Issue has from 2 to 4 hi-res pics and from 8 to 15 never-before-seen programs.

8 to 15 never-before-seen programs

The above software is available in Australia through REMCOMS

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REMCOMS

MIND GAMES

Mind games is an Australian product from the people of Gungadin Software.

This small disk based RAM resident product is a compilation of a number of your favourite mind games all on one disk and utilising a RAM disk for speed.

There are 9 games on the one disk and these are;

1. COLORCODE
   A mastermind type of game
2. FOLLOW ME
   Follow the computers prompts (not as easy as it sounds)
3. SOLITAIRE
   A classic card game
4. LINE UP 4
   A 2 player game of connect 4
5. 5 STACKER
   Relocate the coloured disks in order
6. POKER DOTS
   A dice game similar to crapps
7. SLIDABOUT
   Slide the numbers into correct order
8. COLOR DISPOSER
   Place colours so that no one colour is adjacent to another of the same colour
9. YAHTZEE
   Yahtzee for 4 players

MIND GAMES will keep all ages amused for hours and is available from REMCOMS for only $20 + PP

COCO FAMILY RECORDER

Have you ever wanted to trace your family tree? Been interested in Genealogy? Well then The CoCo Family Recorder is the programme that you need.

The CoCo Family Recorder (CCFR), is designed to help track family members throughout history, and to be as simple to use as possible.

CCFR runs on a CoCo 3 with 2 drives and the database is capable of a maximum of 500 individuals and 200 marriages. There is no practical limit to the number of generations which can be recorded. A printer is a must for a hard copy of the information.

The CoCo Family Recorder is available in Australia from REMCOMS for $45 + pp.

(The pictures in this ad are another example from the CLIPART files for MAX10.)

REMCOMS
100 Whitsunday Dve
KIRWAN QLD 4817
Phone: (077) 734 884

HARBOUR BRIDGE

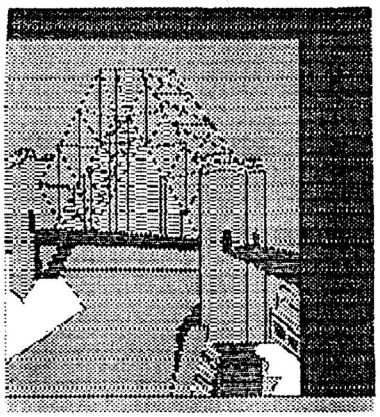
Over the next few pages there are a number of the drawings submitted by our prolific CoCo drawer Graham Elphick. Again these short programmes are an excellent tool for the novice programmer, type them in and then run them. After that play around with the routines to change them to your liking.

```
*********HARBOUR BRIDGE*********

1 HSCREEN2: PALETTE RGB: HCOLOR8:
HCLS5
2 FOR Z=1TO 209
3 READ A,B,C,D
4 HLINE(A,B)-(C,D),PSET
5 NEXT
7 DATA 255, 138, 193, 121
8 DATA 254, 121, 209, 116
9 DATA 209, 116, 192, 120
10 DATA 200, 123, 200, 163
11 DATA 180, 160, 180, 80
12 DATA 180, 80, 200, 80
13 DATA 200, 80, 200, 117
14 DATA 209, 116, 209, 81
15 DATA 209, 81, 225, 81
16 DATA 225, 81, 225, 118
17 DATA 225, 130, 225, 163
18 DATA 209, 127, 209, 164
19 DATA 196, 118, 196, 112
20 DATA 196, 112, 192, 108
21 DATA 192, 108, 188, 112
22 DATA 188, 112, 188, 120
23 DATA 188, 120, 193, 120
24 DATA 214, 117, 214, 112
25 DATA 214, 112, 217, 109
26 DATA 217, 109, 219, 112
27 DATA 219, 112, 219, 117
28 DATA 222, 81, 222, 78
29 DATA 222, 78, 212, 78
30 DATA 212, 78, 212, 81
31 DATA 215, 77, 215, 75
32 DATA 215, 75, 220, 75
33 DATA 220, 75, 220, 78
34 DATA 198, 79, 198, 76
35 DATA 198, 76, 182, 76
36 DATA 182, 76, 182, 80
37 DATA 184, 76, 184, 72
38 DATA 184, 72, 195, 72
39 DATA 195, 72, 195, 76
40 DATA 180, 81, 169, 82
41 DATA 169, 82, 169, 157
42 DATA 171, 82, 171, 78
43 DATA 171, 78, 182, 76
44 DATA 184, 72, 172, 74
45 DATA 172, 74, 172, 77
46 DATA 210, 81, 202, 82
47 DATA 202, 82, 202, 79
48 DATA 202, 79, 212, 78
49 DATA 214, 75, 204, 76
50 DATA 204, 76, 204, 79
51 DATA 203, 77, 144, 30
52 DATA 170, 80, 116, 31
53 DATA 116, 31, 146, 31
54 DATA 116, 31, 84, 31
55 DATA 84, 31, 28, 88
56 DATA 28, 88, 28, 109
57 DATA 28, 109, 42, 109
58 DATA 42, 109, 97, 54
59 DATA 97, 54, 108, 54
60 DATA 108, 54, 169, 114
61 DATA 169, 114, 41, 109
62 DATA 169, 119, 61, 116
63 DATA 61, 116, 45, 133
64 DATA 31, 133, 48, 116
65 DATA 48, 116, 29, 116
66 DATA 29, 116, 32, 133
67 DATA 68, 110, 115, 62
68 DATA 119, 66, 74, 111
69 DATA 29, 87, 47, 105
70 DATA 47, 105, 47, 70
71 DATA 47, 70, 65, 88
72 DATA 65, 88, 65, 51
73 DATA 65, 51, 83, 68
74 DATA 83, 68, 83, 32
75 DATA 83, 32, 97, 54
76 DATA 97, 54, 97, 31
77 DATA 97, 31, 106, 54
78 DATA 106, 54, 123, 37
79 DATA 123, 37, 123, 69
80 DATA 123, 69, 140, 52
81 DATA 140, 52, 140, 84
82 DATA 140, 84, 157, 67
83 DATA 157, 67, 157, 101
84 DATA 157, 101, 169, 88
85 DATA 173, 74, 164, 74
86 DATA 164, 74, 181, 58
87 DATA 181, 58, 147, 58
88 DATA 147, 58, 161, 43
89 DATA 161, 43, 130, 43
90 DATA 130, 43, 147, 31
91 DATA 158, 42, 118, 32
92 DATA 131, 45, 179, 57
93 DATA 147, 59, 196, 71
94 DATA 110, 67, 99, 56
95 DATA 110, 67, 84, 67
96 DATA 84, 67, 98, 81
97 DATA 98, 81, 71, 81
98 DATA 71, 81, 85, 95
99 DATA 85, 95, 58, 95
100 DATA 58, 95, 71, 109
101 DATA 45, 107, 83, 96
102 DATA 58, 94, 97, 82
103 DATA 72, 82, 110, 68
104 DATA 86, 67, 109, 54
105 DATA 158, 114, 158, 105
106 DATA 153, 100, 153, 112
107 DATA 148, 112, 148, 95
108 DATA 144, 91, 144, 112
109 DATA 139, 112, 139, 87
110 DATA 135, 83, 135, 111
111 DATA 130, 111, 130, 79
112 DATA 126, 75, 126, 110
113 DATA 120, 110, 120, 69
114 DATA 116, 64, 116, 110
115 DATA 110, 110, 110, 58
116 DATA 107, 55, 107, 110
117 DATA 102, 110, 102, 55
118 DATA 97, 55, 97, 110
119 DATA 91, 110, 91, 62
120 DATA 86, 67, 86, 109
121 DATA 80, 109, 80, 73
122 DATA 75, 78, 75, 108
123 DATA 69, 108, 69, 83
124 DATA 64, 88, 64, 108
125 DATA 58, 108, 58, 96
126 DATA 54, 97, 54, 109
127 DATA 172, 80, 139, 85
128 DATA 156, 67, 125, 69
129 DATA 138, 51, 108, 53
130 DATA 108, 53, 108, 31
131 DATA 97, 55, 65, 50
132 DATA 84, 69, 46, 68
133 DATA 64, 89, 29, 87
134 DATA 46, 133, 24, 133
135 DATA 24, 133, 24, 109
136 DATA 24, 109, 28, 109
137 DATA 28, 109, 28, 74
138 DATA 28, 74, 16, 74
139 DATA 16, 74, 16, 145
140 DATA 16, 145, 4, 139
141 DATA 4, 139, 4, 78
142 DATA 4, 78, 16, 76
143 DATA 25, 74, 25, 71
144 DATA 25, 71, 19, 71
145 DATA 19, 71, 19, 74
146 DATA 19, 71, 6, 74
147 DATA 6, 74, 6, 78
148 DATA 9, 73, 9, 71
149 DATA 9, 71, 17, 70
150 DATA 17, 70, 22, 70
151 DATA 25, 110, 25, 102
152 DATA 25, 102, 22, 99
153 DATA 22, 99, 20, 102
154 DATA 20, 102, 20, 110
155 DATA 20, 110, 24, 110
156 DATA 47, 130, 69, 148
157 DATA 69, 148, 0, 175
158 DATA 0, 191, 0, 16
159 DATA 0, 16, 255, 16
160 DATA 255, 16, 255, 191
161 DATA 255, 191, 0, 191
```

ELLOGO BY G. ELPHICK

```
162 DATA 32, 84, 32, 75
163 DATA 32, 75, 40, 75
164 DATA 40, 73, 35, 73
165 DATA 35, 73, 35, 75
166 DATA 49, 129, 170, 129
167 DATA 175, 157, 158, 157
168 DATA 158, 157, 143, 191
169 DATA 175, 158, 175, 163
170 DATA 175, 163, 186, 170
171 DATA 186, 170, 176, 191
172 DATA 160, 191, 175, 163
173 DATA 187, 173, 187, 191
174 DATA 185, 173, 174, 167
175 DATA 171, 171, 184, 175
176 DATA 182, 178, 170, 173
177 DATA 170, 177, 179, 182
178 DATA 176, 185, 167, 181
179 DATA 164, 184, 175, 189
180 DATA 184, 190, 184, 184
181 DATA 184, 184, 180, 191
182 DATA 180, 160, 180, 165
183 DATA 180, 165, 200, 165
184 DATA 200, 165, 200, 162
185 DATA 209, 165, 200, 165
186 DATA 209, 165, 225, 165
187 DATA 225, 165, 225, 163
188 DATA 229, 163, 229, 148
189 DATA 229, 148, 235, 148
190 DATA 235, 148, 235, 141
191 DATA 235, 141, 239, 137
192 DATA 239, 137, 255, 143
193 DATA 253, 149, 235, 142
194 DATA 235, 148, 254, 157
195 DATA 254, 162, 230, 150
196 DATA 230, 163, 255, 174
197 DATA 252, 165, 244, 160
198 DATA 244, 160, 244, 164
199 DATA 244, 164, 251, 169
200 DATA 251, 169, 251, 165
201 DATA 240, 163, 232, 158
202 DATA 232, 158, 232, 155
203 DATA 232, 155, 241, 159
204 DATA 241, 159, 241, 163
205 DATA 224, 165, 232, 165
206 DATA 219, 165, 214, 171
207 DATA 214, 171, 227, 174
208 DATA 227, 174, 226, 182
209 DATA 226, 182, 238, 182
210 DATA 238, 182, 228, 191
211 DATA 221, 173, 221, 190
212 DATA 221, 183, 226, 178
213 DATA 168, 144, 150, 158
214 DATA 150, 158, 143, 191
215 DATA 27, 134, 15, 145
217 HPAINT( 193, 116),8,8
218 HPAINT( 217, 112),8,8
219 HPAINT( 22, 106),8,8
220 HPAINT( 183, 190),8,8
221 HPAINT( 248, 165),8,8
222 HPAINT( 238, 160),8,8
223 HPAINT( 238, 189),0,8
224 HPAINT( 137, 185),2,8
225 HPAINT(10,110),1,8
226 HPAINT(30,110),6,8
227 HPAINT(22,120),1,8
228 HLINE(0,120)-(5,120),PSET
229 HPAINT(10,160),0,8
230 HPAINT(210,110),1,8
231 HPAINT(210,140),1,8
232 HPAINT(170,110),1,8
233 HPAINT(185,110),1,8
234 HPAINT(250,130),6,8
235 HPAINT(220,185),6,8
236 HPAINT(160,185),3,8
237 HPAINT(250,150),3,8
238 HPAINT(165,155),7,8
239 HPAINT(5,5),8,8
240 PALETTE0,6: PALETTE5,56:
PALETTE6,7: PALETTE7,16:
PALETTE1,52
241 '** HARBOUR BRIDGE **
242 '** BY GRAHAM ELPHICK **
243 '** 19TH FEB 1994 **
300 GOTO 300
```



```
******ELLOGO******

1 HSCREEN2: PALETTE RGB: HCOLOR8:
HCLS11
2 FOR Z=1TO 114
3 READ A,B,C,D
4 HLINE(A,B)-(C,D),PSET
5 NEXT
7 DATA 195, 120, 65, 120
8 DATA 65, 120, 44, 99
9 DATA 177, 99, 194, 121
10 DATA 194, 121, 235, 117
11 DATA 235, 117, 247, 90
12 DATA 247, 90, 177, 98
13 DATA 177, 98, 23, 98
14 DATA 23, 98, 55, 64
15 DATA 55, 64, 53, 36
16 DATA 53, 36, 106, 43
17 DATA 106, 43, 147, 43
18 DATA 147, 43, 198, 24
19 DATA 198, 24, 220, 6
20 DATA 220, 61, 247, 90
21 DATA 197, 24, 174, 66
22 DATA 174, 66, 177, 98
23 DATA 174, 68, 221, 62
24 DATA 217, 61, 198, 32
25 DATA 198, 32, 179, 67
26 DATA 200, 66, 200, 54
27 DATA 200, 54, 184, 57
28 DATA 187, 51, 199, 49
29 DATA 199, 49, 198, 33
30 DATA 203, 41, 203, 48
31 DATA 203, 48, 208, 47
32 DATA 211, 52, 205, 53
33 DATA 205, 53, 205, 64
34 DATA 180, 71, 182, 95
35 DATA 188, 95, 186, 69
36 DATA 191, 68, 195, 93
37 DATA 203, 93, 196, 67
38 DATA 203, 67, 211, 91
39 DATA 217, 89, 208, 66
40 DATA 213, 66, 224, 87
41 DATA 231, 87, 219, 66
42 DATA 205, 95, 201, 120
43 DATA 213, 119, 217, 93
44 DATA 182, 102, 202, 99
45 DATA 202, 105, 187, 108
46 DATA 189, 114, 199, 111
47 DATA 220, 98, 242, 97
48 DATA 241, 103, 219, 105
49 DATA 219, 112, 236, 110
50 DATA 231, 116, 238, 9
51 DATA 231, 94, 226, 116
52 DATA 221, 116, 223, 96
53 DATA 200, 96, 198, 116
54 DATA 193, 116, 194, 98
55 DATA 188, 98, 187, 109
56 DATA 179, 106, 52, 106
```

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57 DATA 59, 113, 182, 113
58 DATA 174, 118, 158, 101
59 DATA 142, 101, 158, 117
60 DATA 136, 117, 121, 101
61 DATA 105, 101, 120, 117
62 DATA 100, 117, 85, 102
63 DATA 69, 102, 84, 117
64 DATA 65, 120, 65, 128
65 DATA 65, 128, 197, 128
66 DATA 197, 128, 197, 121
67 DATA 197, 128, 236, 124
68 DATA 236, 124, 234, 118
69 DATA 197, 128, 212, 133
70 DATA 212, 133, 244, 129
71 DATA 244, 129, 235, 124
72 DATA 219, 128, 236, 147
73 DATA 248, 145, 230, 127
74 DATA 233, 133, 226, 133
75 DATA 231, 138, 237, 138
76 DATA 242, 142, 236, 142
77 DATA 211, 134, 211, 150
78 DATA 211, 150, 203, 150
79 DATA 203, 150, 203, 130
80 DATA 191, 128, 191, 147
81 DATA 191, 147, 180, 147
82 DATA 180, 147, 180, 129
83 DATA 153, 129, 153, 145
84 DATA 153, 145, 141, 145
85 DATA 141, 145, 141, 128
86 DATA 113, 128, 113, 145
87 DATA 113, 145, 102, 145
88 DATA 102, 145, 102, 129
89 DATA 76, 128, 76, 145
90 DATA 76, 145, 65, 145
91 DATA 65, 145, 65, 127
92 DATA 242, 129, 242, 139
93 DATA 240, 106, 255, 106
94 DATA 51, 106, 0, 106
95 DATA 0, 191, 0, 16
96 DATA 0, 16, 255, 16
97 DATA 255, 191, 0, 191
98 DATA 0, 68, 19, 58
99 DATA 19, 58, 25, 58
100 DATA 25, 58, 28, 50
101 DATA 28, 50, 36, 66
102 DATA 36, 66, 48, 72
103 DATA 230, 72, 245, 60
104 DATA 245, 60, 251, 68
105 DATA 251, 68, 255, 61
106 DATA 255, 16, 255, 191
107 DATA 0, 164, 26, 159
108 DATA 26, 159, 38, 151
109 DATA 38, 151, 61, 161
110 DATA 61, 161, 68, 168
111 DATA 68, 168, 88, 164
112 DATA 88, 164, 99, 153
113 DATA 99, 153, 116, 170
114 DATA 116, 170, 150, 159
115 DATA 150, 159, 156, 153
116 DATA 156, 153, 188, 170
117 DATA 188, 170, 205, 170
118 DATA 205, 170, 224, 161
119 DATA 224, 161, 231, 154
120 DATA 231, 154, 255, 165
122 HPAINT( 177, 65),7,8
123 HPAINT( 203, 62),7,8
124 HPAINT( 211, 96),7,8
125 HPAINT( 245, 78),6,8
126 HPAINT( 14, 78),6,8
127 HPAINT( 246, 165),0,8
128 HPAINT(10,160),3,8
129 HPAINT(10,20),5,8
130 HPAINT(260,10),8,8
131 PALETTE0,6: PALETTE6,16:
PALETTE7,52: PALETTE3,49:
PALETTE11,62
200 GOTO 200
```

[]

2 MEG UPGRADE

REMCOMS now have available in Australia the 2 Meg upgrade for the CoCo3. The board is a 0K board which requires you to purchase two 1 X Meg chips (these are available commercially).

If you do not have soldering experience, it is suggested that you get someone who has to do the installation for you, all instructions are included as are the required patches for OS-9.

The type of chips required are;

2 X 1 Meg SIMMs.

These must be the CMOS 2 chip type 100ns or less, the CMOS 3 chip (1Meg X 9 bit DRAM) SIMM will also work.
Price: $150 + pp

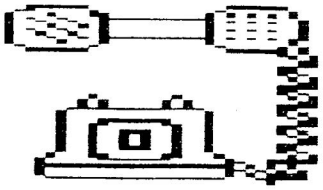
For more information contact:

REMCOMS
100 Whitsunday Dve
KIRWAN QLD 4817

Phone:(077) 734 884

[]

MAX 10 with CLIPART



This is a very short demonstration of what can be achieved with MAX 10 using it's column capabilities and incorporating the available CLIP ART files.

There are a number of ways to obtain this CLIP ART. One is to buy the disks, which are available commercially, containing the files. The other is to produce your own artwork and then transfer this artwork into CLIPART files using the supplied transfer utility on the MAX 10 disk.

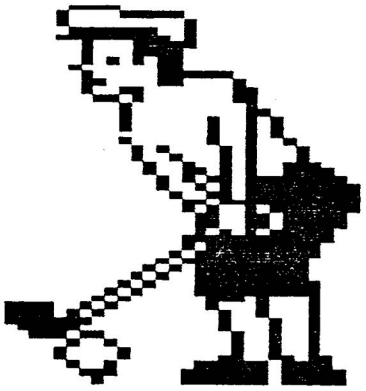
You can produce your own artwork in any number of ways including COCOMAX, BASIC programmes or any number of graphic programmes.

The end result is only limited by your own imagination.

The quality of the finished product on the printed page is in direct proportion to the type of printer that you are using, for example this page was printed using a Tandy DMP 136 Colour printer running at 9600 Baud and an EPSON driver. If you had the money to spend on a laser printer then you would get a printout comparable to any other commercial product, or you could use for example a 24 pin dot matrix or even an inkjet or bubblejet printer.
The choice is dependant on how much you want to spend and what quality of print that you want to end up with.

The uses for MAX10 coupled with the CLIPART files are endless. Imagine producing your own newsletter for your user group or school, even producing your own advertisements for your business.

The cost comparison between having these done commercially at a printer for example and the purchase of the required equipment to do them yourself, most of which you already own, would make even the most avid scrooge go for MAX10.



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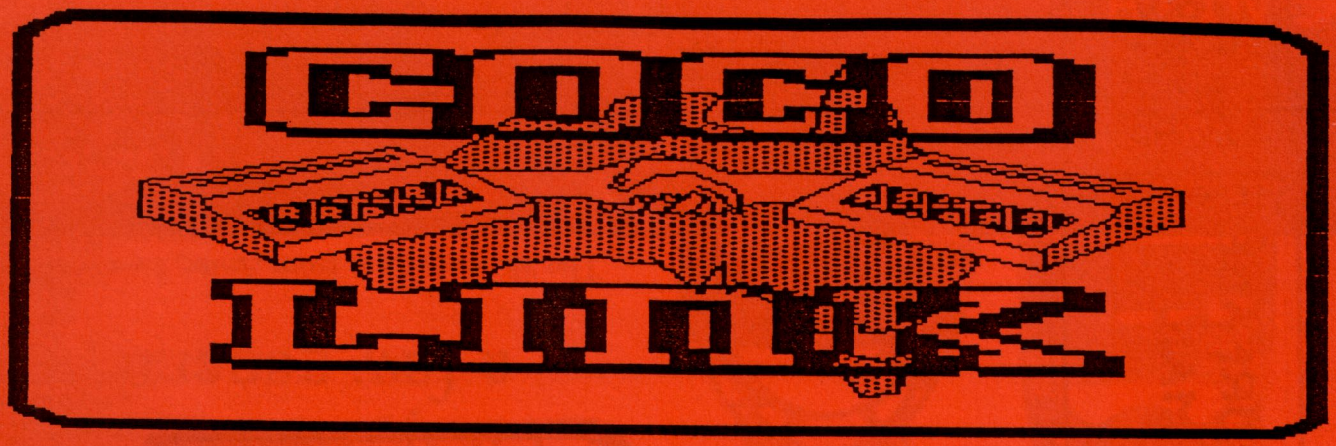

Name	Street	Town/Stat/PC	Phone
Alway Peter	PO Box 821	Boronia Park/NSW 2111	02 816 2130
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Bentzen Gordon	8 Odin St	Sunnybank/QLD 4109	07 344 3881
Blazejwski Stan		Mordiallic/VIC	03 580 4605
Boardman William	10 Eltham Ave	Pt Lincoln/SA 5606	086 82 2385
Bye Graham	9 Airlie Bank Rd	Morwell/VIC 3840	051 34 5954
Cameron William	2/22 Warren St	St Lucia/QLD 4067	07 371 4736
Colls Jason	16 Clavus St	Geelong/VIC 3214	052 75 5450
Cooper Lent&Shirley	223 Elswick St	Leichardt/NSW 2040	
Cosier W.F	32 Argyll St	Coffs Harbour/NSW 2450	066 524 056
Cunnigham Eric	7 Nuthatch St	Inala/QLD 4077	07 372 2980
Dalzell Robbie	31 Nedland Cres	Pt Noarlunga/SA 5167	08 386 1647
Davis Terry	4/456 Waterdale Rd	HEIDELBERG WEST/Vic 3081	03 455 1608
Devries Bob	21 Virgo St	Inala/QLD 4077	07 278 7209
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Hester Joseph	49 Truscott Rd	Moe VIC 3825	051 271 158
Holder Garry	229 Esplanade	Seaford/SA 5161	08 386 1139
Hutchinson Simon	10 Ascot Court	Nth Dandenong/VIC 3175	
Ikin John	42 Spruce Dve	Romville/VIC 3178	03 759 6253
Johnson Fraser	35 Robson Ave	Gorokan/NSW 2263	043 923 298
Kenny Bob	3/14 Bellingen Rd	Coffs Harbour/NSW 2450	066 51 2205
Lidgard Ron	17 Acacia St	Thornlands/QLD 4164	07 286 2776
McGrath John	93 Lemon Guns Dr	Tamworth/NSW 2340	067 618 071
McLintock George	7 Logan St	Narrabundah/ACT 2604	06 295 6590
McNabb John	PO Box 109	Boronia/VIC 3155	03 758 9008
Morgan Peter	PO Box 26	Cooyar/QLD 4402	076 926 248
Morris John	30/45 Lawrence Hargrave Rd	Warwick Farm 2170	02 822 4678
Munro Ron	91 Blackburn Rd	Elizabeth E/SA 5112	
Murrells Alan	5 Goulburn Ave	Corio/VIC 3214	052 75 3065
Quinn Stephen		Orange/NSW	063 62 0519
Rae Desmond	PO Box 2076	Mt Isa/QLD 4825	077 43 3486
Remin Fred	11 Corcoran Cres	Canungra/QLD 4275	075 435 821
Remin Fred (1)	3/1 Franklin St	East Doncaster/VIC	03 842 8545
Rosch Raymond	5 Euphrates Pl	Kearns/NSW 2558	02 820 7228
Schmidt Richard	5a Stephens Ave	Torrensville/SA 5031	08 354 0951
Steman John	PO Box 680	Windsor/NSW 2756	
Stephen Val	1 Mabel St	Camberwell/VIC 3124	03 830 5668
Stevens Darren	16 Hewitt St	Colac/VIC 3250	052 311 795
Vagg Johanna	9 Belah St	Forbes/NSW 2871	068 52 2943
Williams Arthur	67 High St	Harrington/NSW 2427	065 56 1517

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

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