

THE MAGAZINE for TANDY Computer USERS

AUGUST, 1987

# *Softgold*

4.50

# Conf'87

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# WHAT'S ON THE BEST OF CoCoOz

## Best of CoCoOz #1. EDUCATION

ROADQUIZ ..... ROB WEBB  
 SHARE MARKET ..... ALEPH DELTA  
 HANGMAN ..... ALEPH DELTA  
 AUSTQUIZ ..... P. THOMAS  
 ALPHABET ..... ROB WEBB  
 SPELLING TUTOR ..... IAN LOBLEY  
 TANK ADDITION ..... DEAN HODGSON  
 FRACTION TUTOR ..... ROBBIE DALZELL  
 TABLES ..... BARRIE GERRARD  
 ICOSA ..... BOB WALTERS  
 KIDSTUFF ..... JOHANNA VAGG  
 TAIKMAN ..... TONY PARFITT  
 FLAGQUIZ ..... ROB WEBB

## Best of CoCoOz #2 part 1 16K GAMES

PYTHON ..... W. ARMSTRONG  
 COCONIND ..... STEVE COLEMAN  
 POKERWCH ..... GRAHAM & MATTHEWS  
 OILSLICK ..... JEREMY GANS  
 SPEEDMATHS ..... DEAN HODGSON  
 COMETOR ..... BOB THOMSON  
 BATTACK ..... JEREMY GANS  
 SKIING ..... JOSHUA GANS  
 PROBDICE ..... BOB DELBOURGO  
 RALLY ..... TONY PARFITT  
 CHECKERS ..... J & J GANS  
 FOURDRAW ..... JOHANNA VAGG

## Best of CoCoOz #2 part 2 32K GAMES

TREASURE ..... DAVIDSON & GANS  
 SHOOTING GALLERY ..... TOM DYKEMA  
 MASTERMIND ..... GRAHAM JORDAN  
 GARDEN OF EDEN ..... DAVE BLUNDORN  
 ANESTHESIA ..... MIKE MARTYN  
 YAHITZEE ..... KEVIN GOVAN  
 OREGON TRAIL ..... DEAN HODGSON  
 BATTLESHIP ..... CHRIS SIMPSON  
 ADVENTURE + ..... STUART RAYNER  
 ANDROMEDIA ..... MAX BETTRIDGE  
 LANDATTACK ..... ALDO DEBERWADIS

## Best of CoCoOz #3 UTILITIES

SCREEN PRINT ..... TOM DYKEMA  
 RANTEST ..... TOM DYKEMA  
 PRINT SORT ..... PAUL HUMPHRIES  
 BEAUTY ..... BOB THOMPSON  
 DATAGEN ..... ROBIN BROWN  
 PCOPY ..... BRIAN DOUGAN  
 FASTEXT ..... OZ-VIZ  
 MONITOR + ..... BRIAN FERGUSON  
 COPYDIR ..... THOMAS SZULCHA  
 LABELLER ..... FRED BISSELLING  
 SPEED CONTROL ..... PAUL HUMPHRIES  
 ZBC ..... WARREN VARNE  
 CREAT-A-TITLE ..... BRIAN FERGUSON  
 DISKFILB ..... BRIAN DOUGAN  
 BIG REMARKS ..... BOB THOMPSON  
 LABELLER ..... GORDON BENITZEN  
 DIR ..... MORRIS SINGER  
 HI ..... ALEX. HARTMANN

## Best of CoCoOz #4 Business

HI ..... ALBX. HARTMANN  
 (disk; Disk Directory Manager)  
 PERSONAL ..... PAUL HUMPHREYS  
 (Personal Finance Management)  
 BANKSTAT ..... BARRY HATTAK  
 (Annual & Store Statement)  
 CCS ..... GRAHAM MORPHETT  
 (tape; Sales Invoicing)  
 INSURE ..... ROY VANDERSTERN  
 (Analyse Home Contents)  
 COCOFILE ..... BRIAN DOUGAN  
 (tape; database)  
 DPMS ..... PAUL HUMPHREYS  
 (disk; Disk Program Management Sys)  
 DATABASE ..... PAUL HUMPHREYS  
 (tape; THE tape database)  
 RESTACC ..... DUNG LY  
 (tape; Restaurant Accounts)  
 SPDSHEET ..... GRAHAM MORPHETT  
 (disk; 22 column spreadsheet)  
 PRSPDSHT ..... GRAHAM MORPHETT  
 (disk; prints out "SPDSHEET")  
 ACS3 ..... GREG WILSON  
 (disk; Multi disk database)

## Best of CoCoOz #5 ADVENTURES

ADV 32K ..... S. RAYNER  
 QUEST ..... TONY PARFITT  
 LABYRINTH ..... JAMES REDMOND  
 ADV + ..... SHAN LOVE  
 CRYSTAL ..... C & K SPRINGETT  
 PRISON ..... TIM ALTON  
 OPALTON ..... IAN CLARKS  
 VIZARD ..... DARRELL BERRY  
 TREASURE ..... C. DAVIDSON  
 LOST ..... ALEX. HARTMANN

## Best of CoCoOz #6 PRESCHOOL

ALPHABET ..... STUART DAVSON  
 HATDANCE ..... JOHANNA VAGG  
 AUSTRONG ..... McDERMOTT FAMILY  
 ADVANCE ..... McDERMOTT FAMILY  
 VALTZING ..... McDERMOTT FAMILY  
 TINKANG ..... McDERMOTT FAMILY  
 BARD ..... McDERMOTT FAMILY  
 KIDSTUFF ..... JOHANNA VAGG  
 WATCHER ..... ?  
 LETTERS ..... JACK FINNEN  
 BABYSIT ..... JOHANNA VAGG  
 SPELLING ..... JOHANNA VAGG  
 SPEEDTAB ..... DEAN HODGSON  
 10 FACES ..... JOHANNA VAGG

## Best of CoCoOz #7 GRAPHICS

LIL' COCO ..... ANDREW WHITE  
 THE ROOM ..... HERMANN FREDRIKSON  
 BACK STREET ..... JOY WALLACE  
 LOCO ..... MIKE D'ESTERRE  
 COCO ART ..... SANDY MCGREGOR  
 KANGA ..... JOHANNA VAGG  
 THE BOAT ..... SANDY MCGREGOR  
 SAD COCO ..... F. BULLE  
 TOWER ..... C.A. SYMS  
 WINDY DAY ..... SARAH LAV  
 SAILING ..... STEVE YOUNGBERRY  
 OUTHOUSE ..... STEVE YOUNGBERRY  
 SNURF ..... JOHANNA VAGG  
 SUNSTATE ..... STEVE YOUNGBERRY  
 HELICOPTER ..... ANDREW WHITE  
 MARTHA ..... ANDREW WHITE  
 BAD MOON ..... STEVE YOUNGBERRY  
 MCC ..... JOY WALLACE  
 EAGLE ..... ?  
 BLASTER ..... PAUL YOULD  
 FOGHORN ..... PAUL STEVENSON

## Best of CoCoOz #8 16K GAMES

ALIEN ..... STUART SANDERS  
 QWERL ..... DARRELL BERRY  
 SHOOTOUT ..... CRAIG STEWART  
 SHUTTLE ..... CRAIG STEWART  
 FROG ..... DARREN OTTERT  
 FROGRACE ..... TOM LEHANE  
 KINMAT ..... TOM LEHANE  
 GRANDPR ..... DOUG GREY  
 WATER VARS ..... JUSTIN LIPTON  
 CATERPILLER ..... JUSTIN LIPTON  
 DETECTIVE ..... VAL STEPHEN  
 BREAKOUT ..... WHY/BILT

## Best of CoCoOz #9 32K GAMES

TRIONING ..... BOB DELBOURGO  
 MATCHER ..... CHARLES BARTLETT  
 GO ..... BOB DELBOURGO  
 MARZOD ..... MAX BETTRIDGE  
 CHOMPER ..... MAX BETTRIDGE  
 POPBALL ..... MAX BETTRIDGE  
 LUDO ..... WHY/BILT  
 SAHRE ..... ANDREW SIMPSON  
 MOVABOUT ..... KEVIN GOVAN  
 JIGSAW ..... JAMES REDMOND  
 LABYRINTH ..... JAMES REDMOND  
 TANK ..... CRAIG STEWART

## Best of CoCoOz #10 Education II

NETBOR ..... DEAN HODGSON  
 DRIVERS TEST ..... ANDREW SIMPSON  
 SALE ..... JUSTIN LIPTON  
 TABLES ..... PAT KERMODE  
 OPALTON ..... IAN CLARKS  
 CAPITAL LETTERS ..... BOB HORNE  
 TEST MATCH ..... JEFF SHEEN  
 SENTENCE ENDINGS ..... BOB HORNE  
 ESCAPE ..... DEAN HODGSON  
 RAILNATH ..... BOB HORNE  
 COUNTDOWN ..... DEAN HODGSON  
 WHATZIT ..... BOB HORNE  
 HOMOPHONES ..... BOB HORNE  
 COMPOUND WORDS ..... BOB HORNE

## Best of CoCoOz #11 Education III This is a DISK only issue!

CHATVIN NATOR ..... BOB HORNE

Please Note: Some of the programs on Best of CoCoOz # 3 and #4 will not work on the Coco 3.

**TAPE \$16 each**

**DISK \$16 each**



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(BEFORE COMPLETING THIS APPLICATION, PLEASE READ REVERSE SIDE CAREFULLY)

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**NON-BUSINESS SERVICE** ☐

**SURNAME (OR BUSINESS NAME IF BUSINESS SERVICE)**

**GIVEN NAMES**[illegible][illegible]

STATE

**POSTCODE**[illegible]

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TELEPHONE NUMBER ON WHICH SERVICE IS REQUIRED (INCLUDING STD CODE)

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# 2

**GIVEN NAMES**[illegible][illegible]

STATE

**POSTCODE**[illegible]

STATE		

POSTCODE			

CONTACT TELEPHONE NUMBER (INCLUDING STD CODE)

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## 3

PLEASE DESCRIBE NATURE OF BUSINESS (OR OCCUPATION IF NOT A BUSINESS SERVICE)

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**PLEASE INDICATE TYPE OF EQUIPMENT USED TO ACCESS VIATEL**

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VICTORIA 3001

**PLEASE ALLOW TEN WORKING DAYS FOR PROCESSING OF APPLICATION AND RETURN MAIL ADVICE.**

OTE						
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PP								
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[illegible]

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BG		
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SC				
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[illegible]

## GOLDLINK: The place to be on VIATEL

REF							
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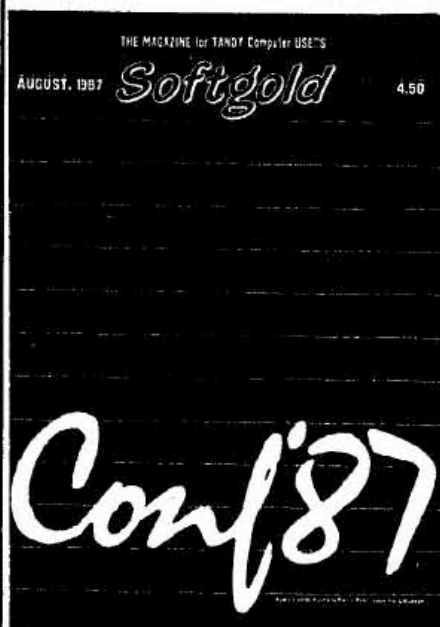
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	Leigh Dawes

### WHO IS THIS MAGAZINE FOR?

This magazine is for computer users - especially users of Viatel, Tandy Colour Computer users, Tandy MC-10 computers, Tandy 1000 and 2000's and IBM-PC's and compatibles.

### WHO PROVIDES THE MATERIAL IN THIS MAGAZINE

The readers of this magazine supply the information you will find here. All of it has been volunteered and remains the property of the individual authors.

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# C I U b ROOM

## Conference

This magazine was prepared against the backdrop of preparations for the Conference, so one or two features are either subtended or missing.

We'll make up for that in an issue to come!

Being pretty close to the Tandy world is always exciting and I guess I sometimes don't tell you as much about it as I should.

This job is highly stimulating, because Tandy always have new things happening, new plans in the making and new products being released.

And they are a company which likes to consult with their customers.

We get consulted often, but when I'm visiting with them, it is not unusual to hear a Tandy buyer say that he wants to talk to a few customers before he makes a decision.

As I've said before. If you have a comment to make on a product - and don't just make negative comments - call Wilfred Egert at Tandy on 02 675 1222.

The plans for Conference are complete. Its going to be a different conference this year. Probably less structured, less formal than previously. Bit of an experiment actually - but we think it will be great.

It will certainly be the place to see just what this CoCo 3 is all about!

And what the MS DOS world is all about too.

In that world, we'll have T1000SX's, T1000EX's and T3000HD's there to show what they can do, and to put thru their paces.

We'll be updating Viatel from there, and you'll see how our new software strips the frames off the Viatel Mailbox system and allocates them to the various bulletin boards - a complex piece of programming which our users on Viatel well know is yet to be finally resolved!

Anyway, enough of conference, read all about it in the Conf '87 section further in the mag - oh and please note that some costs for conference have changed - downwards - due mainly to Johanna Vagg.

She told me to do it, and I did it - I mean I wouldn't be game enough NOT to do anything she tells me to do!

## The New CoCo 3 Software.

We've noted before that any new computer by definition will not have much in the way of software available for it initially.

Go to Blaxland Computer Services today for CoCo 3 software however, and you can choose from:

- \* Lyra, an 8 voice music synthesiser;

- \* Symphony 12, a Musica 2 compatible 12 voice synthesiser for the CoCo 3;

- \* Color Max with hi res joystick - CoCoMax with colour for your CoCo 3 at just \$120 for the Colour Max and \$20 for the hi res Joystick - a program to justify the purchase of the CoCo 3 by itself!

- \* The Wizz - a full terminal package, very intelligent with heaps of functions not possible on some other computers;

- \* DeskMate 3 - At last someone's got it!

- \* Koronis Rift - a flight simulator graphix adventure game;

- \* Wild West - a western adventure;

- \* Magic of Zanthé - an arcade adventure;

- \* Nuke the Loveboat - a joystick adventure with pull-down menus;

- \* IMS - a 4GL data base;

- \* Sculptor - for big business - software you write on your CoCo 3 using Sculptor can be ported to 40 different computers including the VAX mainframe;

- \* Dyna Star - a multi user Word Processor Package for CoCo 3;

- \* Screen Star - an IBM Wordstar look alike for the CoCo3.

These packages are just the start. True they have been a long time coming, but then each one has been worth the wait, each one is significantly better than anything you've used before.

Don't forget...our phone number is different!

Some people are still experiencing problems contacting us by phone.

Please note, our phone number is 075 39 6177!

Adelaide.

OK - I give in! I didn't get to organise anything with the Adelaide contacts or in fact with regard to the Adelaide Bash we have planned for November.

I'll have to try to do it this month - sorry!

## End of Year Party.

I've been asked often lately about the end of year Bash we'll be holding here on the Gold Coast. Seems there will be a few coming from the further reaches of Australia!

So OK, the Bash is on the weekend of 12th December.

You can stay at my place (on the floor) or probably at other places around the Coast - we'll let you know.

The aim is to set up on the beach on Saturday. We'll have a BBQ tea, and then we party right thru the night!

Needless to say, there are other things to do here. We'll probably go to Seaworld on Saturday too, and there's always the surf - so plan to be here for a fun weekend - its going to be great!

## The Amiga and THAT Article.

Many people have told me that last month's magazine was the best we've ever done, except that it was spoilt by THAT article.

The article they are referring to is the article by Walter Zambotti.

We often print things with which we don't agree, and recently got into strife with an author for saying so. So this time we thought we'd let our readers judge the article.



Well you've done that 10 to 1 against the article, and as of next month we'll publish some of your replies as well as a point for point comparison.

The bottom line is, in the view of the majority, dollar for dollar, the CoCo 3 stacks up against the Amiga & topples it.

The point we make is that a computer is one tenth hardware, four tenths software and 5 tenths support.

Since the CoCo first appeared, there have been many good computers released on the market which have come - and gone.

Technically they have had some features which exceeded the capabilities of the CoCo, but the market made the judgement that they were not sufficient, because most of these computers now no longer exist.

I don't know how long the Amiga will last, or even if it will outlast the CoCo. What I do know is that the company which makes it has a reputation for not supporting their users and for changing standards in mid stream. That alone makes the machine a highly questionable purchase. Once you start to look at other things, like the volume and depth of support that surrounds the CoCo, the low price of entry, and the exciting software which is becoming available, it is very difficult to give terribly much credence to Walter's article.

(In fairness to Walter, he wrote the article sometime before it was published and it reflects the problems he experienced in his area, many of which may not be so critical in the larger cities of Australia.)

The only other thing I want to say at this stage is that last month's magazine in itself refuted much of what Walter said.

There is Blaxland's release of definitive new CoCo3 software in that mag; there is a volume of good CoCo 3 software in that magazine, and finally, the magazine reflects the strength of the Colour Computer community.

In future in Softgold, we are going to list as many Users Groups for as many computers as we can find. (Other users need support too!) You watch, without being biased, I doubt you'll find we ever have as many groups listed for other computers as there are for Tandy computers.

You may or may not think of a Users' Group as being important, but I can assure you, that without them, this magazine would die, the supply of programs would die, and the knowledge pool would dry up.

The Users' Group is the barometer of a computer's real health, and that is why we have always placed ultimate value in them.

Amiga? No thanks, I'll stick with my CoCo 3!

#### Users' Group News.

We'll have a bigger section next month to cover what we didn't print this month.

Unfortunately with conference upon us, we have not had time to compile the news or the changes of numbers this month.

As I said earlier however, we plan to incorporate in Softgold (not in CoCo mag though), listings of Users' Groups right across Australia for all computer types.

It is apparent from our involvement in Viatel, that such information is difficult to come by, and that this is something we can do for those of you who purchase this magazine thru Viatel.

So if you are a member of any computer club not listed, please let me know your club details and we'll get them into next month's mag.

#### Goldlink this Month.

Coming up this month we have a few changes.

We have some new boards starting in Inner Circle, as well as two new public boards.

We have several new Databases starting soon - a big new one for the Commodore users, and some new info for the Amstrad users, and an increased CoCo 3 section.

It's just on 12 months since we began our service on Viatel, and during that time we've risen through the ratings to the number 3 slot.

We are continually reviewing our service, and whilst our system has suffered from the unreliability of the update software we've been using, we've been able, through all the mixups, to attain an understanding of what we can achieve with it.

We are involved with Viatel on levels other than those which

effect users, and some of that involvement will benefit you all shortly in the form of simplified up & down load facilities.

We've never been satisfied with this aspect of Viatel, but soon, new software will be available which will change all of this. More hopefully next month.

On the social scene, this month I met with some of our users in Melbourne for a quiet evening meal.

Of course when Woodrow turns up at anything like that, the concept of 'quiet' just floats straight out the door, but it was fun anyway, made even better because Leisa was also there - along with EP, Wino, Big M & his lovely lady, The Maltese Sparrow, Princess Cygnus & fiend, Manticore, and several others whose names I forget - sorry to them.

Was a great night, one of the funniest nights I've ever spent actually! Let's hope we can have some more like it in the future!

#### The Tandy Store Award.

As you would know, we get letters recommending Tandy Stores and staff often, and the store which rates best in this is Pat Drennan's store in Western Australia.

We consistently get letters such as the one in the letters section this month about this man, and we've come to the conclusion that he can't be writing them all himself, so... big pre conference announcement here.... Pat gets the Tandy Store Award for August and for 1987.

We congratulate you Pat, and your staff - we expect a photo of you all by the way - and on behalf of the Tandy Computer Users of Australia, we thank you for setting such a high standard for the other stores to follow.

Pat, on the days when you wonder whether you want to be bothered, or on the days when you have to cop some customer's abuse for something you didn't do, remember us, the Tandy users of Australia, who really do appreciate what you do.





# Feedback

## LETTERS

**NEED HELP?** Write to Graham, to Dr CoCo or leave a message on Viatel and we'll do our best to answer your enquiry in these columns as soon as possible.

Dear Graham,

I was reading one of my back copies of "Australian Rainbow" (January 1987) and I came across an article entitled "Hamming It Up" on page 30 about the Packet Radio.

This really interested me because I cannot afford to run a modem. Could you please send me some more info on the Packet Radio, eg where I could purchase one from, where can I contact somebody using one, etc.

I was also reading March 1986 "Australian Rainbow" and I came across what sounded to be a very useful program - it was entitled "An easy way to run your programs". There was just one little problem - it referred to a program by Roger Schrag's called "A Special Use for the DOS Command". Then in brackets it had November 1984, Page 140. I flicked through my back copies of Australian Rainbow and found November 1984. The last page number was 64, so I could not use this very useful program. Could you please send me the listing of "A Very Special Use for the DOS Command?"

Peter Thomas  
Grantville, VIC

Peter,

Unfortunately references to page numbers in American Rainbow often eluded us when we were making the Australian version, and it would appear that the article you seek is an article that we did not print in the Australian version. The month and page number reference refer to American Rainbow, not to Australian Rainbow.

As we no longer maintain ties with Falsoft we cannot assist you with this article. Sorry.

Graham

\*

Dear Graham,

Could you find out if anybody has programmed the game of patience - if so where could I get a hold of it. A friend of mine has an Amstrad with that game.

L.D.W Bartell

I know of no game of patience available for the CoCo (other than any programming you might do).

You could contact Computer Hut Software in Bowen who import games from the US - perhaps they may have a commercial version.

Alternatively if you think about it for ten minutes, it really shouldn't be that hard to write one.

Graham.

\*

Dear Graham,

Do you have a complete index listing of the programs found in CoCo and Rainbow indicating in which magazine the listing may be found, or more importantly, the instructions for them. We have a large number of these programs in our library and a ready reference to the programs origin would be most useful.

Bill Snow,  
Maitland Users Group

Bill,

A full listing of all CoCoOz programs is printed every January in Softgold Magazine (Australian CoCo in 1984, 1985 and 1986).

Whilst various databases referencing Rainbow material have been sent to us, we've not been in a position to publish one, firstly due to the space problem and secondly because of Copyright problems with the US.

Clubs running librarys should be very aware that Falsoft will not countenance their products on library shelves.

Graham

\*

Dear Graham,

Like Bob Milne (Softgold May pg 4) I had trouble with "Air Raid" and wrote to Barry Cawley about it. I still haven't seen a reply.

Also, I have had trouble with "Disk Organizer".

Since that first letter, I've taken out a 12 month subscription and also like Bob Milne I'm beginning to doubt the wisdom of this as most of the

few programs I've seen since have been in Pascal which is a foreign language to me at the moment.

I may get into Pascal one day, but for the present, I'm having enough trouble with Basic.

Since I wrote the first letter, I've had an update from Tandy of my DOS to MSDOS (Tandy) 02-11-24 and Basic 01-02-00 and the problems with beep and sound have been fixed. I've tried "Air Raid" with the new DOS, but the arrow keys still don't move the gun.

I do enjoy reading Softgold but I would like more T1000 programs and not too much Pascal. I thought that when CoCo became Softgold, it would become a lot more T1000 orientated.

Yours Sincerely,  
Roy Little  
McKinnon, VIC

Roy,

As I've said so many times, I'm happy to print as many T1000 programs as I can, but I can only do that if I get them sent to me by our readers.

As soon as a T1000 program arrives, it goes straight into the magazine.

I guess the real situation is that most of you who own T1000 are still getting used to your machines.

As for Pascal I make no apology about its use in the magazine. Like OS-9 level II for the CoCo 3, Pascal seems to be the "natural" language for the IBM's, and we encourage you to purchase a Pascal compiler such as Turbo Pascal and try to understand how that works.

It happens that next month there will be at least one Basic program for the T1000 along with more Pascal programs.

We are very keen to obtain some Pascal tutorials for this magazine from anyone who can supply same.

Graham



Dear Graham,

Thank you for the CoCo 3 tape. I couldn't wait to look at it! But what's this - a Kangaroo without a tail? "3Kanga", that's what! And the choice of background was less than pleasing ... (Tail in line 45, no 'H' added to 'DRAW' ... then also needs painting ... personally I would HCLS to colour for Kanga, then HPAINT background).

Disappointing is a mild word for what I felt when I ran "3Kidst". I was proud of "Kidstuff" ... not so "3Kidst".

Humpty is a terrible colour; he does NOT fall off the wall; the sky in "Twinkle" is green!!; "Twinkles" music is LOW because the POKE65495,0 doesn't work; the MICE are really YEECH! ... their tails don't even reach their bodies ... and at the end, it tries to RUN again and gets a ?DD ERROR!!!

The tape arrived 17 hours ago. I spent a couple (at least) of those hours, re-converting "3Kidst".

We've had a 96 hour bug here ... what's that, you ask? Well a 96 hour bug is a 24 hour bug going through four kids. I hope it doesn't turn into a 168 hour bug!

Today is presentation day for Forbes North Primary.

Monica (in year 6) took out two awards. One for excellence in all subjects and another for quiz, ie general knowledge. She is the youngest (11.5 this week) and tallest in year 6!

Richard got a certificate for excellence in mathematics and Peter recieved one for Proficiency in computers. (Peter acts the dummy with the computers at home). Richard is in year 2.

I read in the paper that Michelle (year 7) will be getting an award for Outstanding Effort in Social Science. She got a Distinction in a Maths Competition this year!

Monica got distinction in two maths competitions.

Yes, I am proud of them ... they were disappointed with "3KIDST" too, by the way. They helped me with it early in 1984.

Keep trying ...

Johanna Vagg

Forbes, NSW

Johanna,

That first CoCo 3 tape/disk was put together very quickly when we first obtained a CoCo 3 early on.

It was never meant to be a compilation of definitive CoCo 3 programs, but rather a series of thought starters.

In fact after this month we will be withdrawing that product from our catalogue as it has now served its purpose and there are many better programs around for the CoCo 3.

In the case of the programs converted from programs by you and your children, the aim was merely to show what can be achieved colourwise when a CoCo 2 program is moved into the CoCo 3 mode.

I'm glad that you & your children are fine and doing so well at school - and I hope you don't see this after the conference! (Little private joke with Johanna!)

Graham

\*

Dear Graham,

Maybe this subscription will help alleviate the log-off blues, and stop me from getting drunk every time I feel like logging onto Viatel. Alcoholism is only a bit better to Viateloholism.

Gotta go - I off to see my 3 mates, Jim, Jack, Johnny and Douglas.

Kindest Regards;

Den Whitton or

Fruitbat (whichever comes first ...)

Ps I saw the photo of dBAUCH2. He doesn't look very silly, which surprised me because some of the letters he sends me would indicate otherwise.

Bye ...

Den

Hi Fruitbat,

We miss you on viatel but your letters are more fun!

Graham

\*

Dear Graham,

Congratulations on your fine magazines. I have decided to once again re-new my subscription with your Softgold magazine, for a further 12 months.

I have not switched to the Australian CoCo, even though I would like to, as I am considering purchasing a Tandy 1000SX in the future, and even though it will probably be a while before I save enough money to purchase this computer, I

consider that the Softgold magazine to be an invaluable help.

When I do purchase the Tandy 1000, it will be a great help in getting started and understanding the new computer, as it is very different to the Colour Computer.

I would also love to recieve your CoCo magazine as I would find it more of a help at the present, while I'm using the CoCo, but unfortunately, as a student with no job, I really couldn't afford both.

It would be great, if you could provide a discount for people in my situation.

These Tandy stores that are receiving the award that mention each month your magazine -- how do they compare with Pat Drennen's store???

I would say that he would beat them hands down. His help, friendliness, service and Tandy store is unbeatable over here in the west!

He will also go out of his way to help you, and always tries to give you the best deal possible.

For example, he never pressures you into buying anything; I once went to him in the hope of buying a Word Processor and he told me about the ones he had in the shop, and told me what were the best (and the best were not always the most expensive, which is what most people always try to sell you) and he even told me that one of his other customers was selling a very good Word Processor!

He told me the price, and gave me his telephone number.

Have you ever met a person that was prepared to give up a sale (and his profits), remembering that there was nothing in it for him?

No? - well I have -- Pat.

I think that he well and truly deserves a store award, and a very good write up in your magazines.

Also, it would be a good idea if the people in "Marthas Trading Post" had their addresses printed, as a phone call to some of these people would be very expensive, especially if you live over here in the west.

Thank you,  
Grant Menner  
Parkwood, WA



Grant,

The point is taken about Pat, who works very hard to make sure that his customers are always satisfied.

He's a good man but I'm not going to tell him that!

And the point is also taken that it's probably time for a special subscription price to the mags so as a conference special we will offer a "this month only" price of \$60.00 for a 12 month subscription to both magazines.

Graham

\*

Dear Graham,

I am an invalid pensioner and have recently bought a second-hand Tandy TRS-80 computer II. I am by no means an expert, just a very inexperienced learner.

I have bought a few of your magazines as I have taped all the programs in my manual. I only have 16k of memory and a tape cassette. I am trying programs out of your magazine suitable for 16k, as I find computer books too expensive, being on the pension.

I noticed in the back of the magazine marked Vol 3 - June '87 an advert for "What's on the Best of CoCoOz".

I wish to know whether these are tapes of programs or listings as there are a few 16k tapes I would be interested in.

Also, if they are tapes, do I insert in the datasette and simply type in "CLOAD" as items are listed in your ad, or what??

Also, where do I send for these programs and how much for postage & handling.

Hoping you can be of assistance.

Yours sincerely,  
Graham Elphick  
St Marys, NSW

Ps, are the programs listed in CoCo suitable for a Tandy TRS-80, as I haven't tried any program listed yet.

Thank you.

Graham,  
Our address is PO Box 1742,

Southport, Queensland, 4215. Anything you need for your colour computer can be obtained by writing to us at that address.

The Best of CoCoOz series are a series of tapes or disks. Each tape or disk has the programs listed in the back of the magazine on it. For example, Best of CoCoOz #1 - Education has:

- \* Roadquiz
- \* Sharemarket
- \* Hangman
- \* Austquiz
- \* Alphabet
- \* Spelling Tutor
- \* Tank Addition
- \* Fraction Tutor
- \* Tables
- \* Icosa
- \* Kidstuff
- \* Taxman
- \* Flagquiz

... all on the one tape.

You load (or in the case of tape systems, CLOAD) each of the programs listed above into your computer from the disk or tape.

Each of the programs that appear on the "Best of CoCoOz" series are programs which were presented at an earlier time in previous magazines. Each has something to teach us and in many cases, we consider many of the programs to represent important points in programming.

I would suggest that with 64k upgrades being so inexpensive at present, that you consider upgrading your 16k computer. This is the single most valuable thing you can do to improve the net worth of the computer to yourself.

The CoCo is the single most powerful 16k computer in the land - there is no doubt of that. But when you give it some more memory, it's just amazing what it can achieve!

Graham

\*

Dear Graham,

I have been an avid reader of both your magazines for over a year now and although I find them informative and educational

I feel that I must make some hopefully constructive criticisms.

Firstly in the middle of last year you gave an undertaking that all 0's (zeroes) would be slashed in future editions. The only slashed zeroes I have seen to date have been in the programs for the TI1000 users.

Secondly the use of three or four different type sizes in each issue is quite disconcerting - please, please - settle on one size (preferably standard printer size) and stick to it.

Thirdly the number of spelling mistakes in recent issues is on the increase and I feel sure that the people who submit programs and articles to both magazines must be dismayed by these errors.

I do realize that you must all be extremely busy people with your many diverse interests and talents and as I mentioned earlier my comments are meant to be constructive, as I, like many others, do appreciate your efforts.

Yours Sincerely  
Bill Huxley  
Kalinga, QLD

Bill,

The undertaking we gave with regard to the slashed zeroes was made prior to the time when we started using the DMP-130 printers.

At that time, we used C. Itoh 8510 printers which were very fast and had selectable zero styles. In approximately January 1986 we switched to the DMP-130 which does not have a slashed zero option.

We feel that this disadvantage is outweighed by the more modern typestyle which makes for easier reading.

I agree about the type size, and we are trying to maintain a single size. Sometimes we would have to leave information out, if we did not compress it.

Graham



# COM \* STATION 642

Com Station 642 Viate 64290133A  
Clubroom Member  
755100150 TUE 30 JUN 1987 20:17  
NEW!! The Gamers' Board - #642916\_

> As it is Computer night tonight, here are some general hints & tips for computer users!

1. Keep disks & tapes when not in use, well away from power cords, anything electrical, especially TV sets. The left hand side of the TV set is often more electromagnetic than the right as this is where the high voltage is to be found. (Disks & tape of course store their info magnetically & electrical lines have a magnetic field around them which can rearrange your disk or tape!)

\*

Com Station 642 Viate 64290134A  
Clubroom Member  
755100150 TUE 30 JUN 1987 20:23  
NEW!! The Gamers' Board - #642916\_

> 2. Always disconnect the computer from the wall if you are going to open the case. There can be live or charged lines inside which can injure you or worse still, injure the computer!

3. Tape users should clean the heads of their tape deck, as well as the pinch roller every 10-12 hours of use as these components critically effect the performance of the unit. Don't skip on tape quality for valued programs, tape performance = price.

\*

Com Station 642 Viate 64290135A  
Clubroom Member  
755100150 TUE 30 JUN 1987 20:28  
NEW!! The Gamers' Board - #642916\_

> 4. Handle diskdrives carefully. It is preferable that you keep the card-board disk keepers in the drives when they are being moved as the heads are easily damaged. In no circumstances allow any more jolting than is absolutely necessary.

5. Keep programs of different types on different tapes/disks. As your system grows, it will become unmanageable if you do not control your library!

\*

Com Station 642 Viate 64290141A  
Clubroom Member  
755100150 TUE 30 JUN 1987 21:04  
NEW!! The Gamers' Board - #642916\_

> 6. At least try to grasp the rudiments of the Basic language. Its amazing how little knowledge it takes to get a lot from your computer.

7. One of the most worthwhile purchases you can make is a good, FAST printer. As with so many things to do with computers, there is no substitute for money spent on something like this.

Consider printers in the 100 CPS (Characters per second) range as being about the right speed/quality for home use.

Com Station 642 Mars 64290136A  
Clubroom Member  
709813860 TUE 30 JUN 1987 20:31  
NEW!! The Gamers' Board - #642916\_

> Along the lines of magnetism - a magnet is a good way to completely erase a disk (quickly) without a computer if the need should arise! In some cases a disk will format after being wiped by a magnet when previously it failed. (sounds sus I know but it SOMETIMES works)

dBEST 2

We've found that too! Amazing! It appears that the magnet rearranges the particles!

\*

## Tuesday night is computer night on Goldlink Com Station 642

\*

Com Station 642 Viate 64290149A  
Clubroom Member  
755100150 TUE 30 JUN 1987 21:32  
NEW!! The Gamers' Board - #642916\_

> To follow on, a printer is essential when you are programming. Finding error in code, especially Basic code, can be accomplished on-screen, but a printer really does make short work of the job.

Of course it also opens the world of WP (Word processing) to you too & again for this job, the faster your printer, the more you'll use it for WP.

These days, there are NLQ (Near Letter Quality) dot matrix printers which are quite fast and very fast.

For example the Tandy DMP 130 or the Epson LX 80.

\*

Com Station 642 Mars 64290138A  
Clubroom Member  
709813800 TUE 30 JUN 1987 20:46  
NEW!! The Gamers' Board - #642916\_

> G - the correct term is "align the domains" I think. Who cares - it works! (especially in Messy Dos machines!)

Must have something to do with the strength of their writing field? Anyone know more?

dBEST 2 - interested

Yes you are probably correct, unfortunately, I can't talk technical - we'll see as UFO when he gets here!

Com Station 642 Mars 64290139A  
Clubroom Member  
063003280 TUE 30 JUN 1987 20:46  
NEW!! The Gamers' Board - #642916\_

> You're not wrong about keeping programs of different types on different disks. I spent 3 days "tidying up" the various files I had in wordprocessing. It's amazing how many files I could have made a simple changes to if I had had them all on the one disk - AND correctly catalogue d/indexed. Always save a file using a name which you can understand and is related to the content. I found I may have written about 10 files which were basically the same because either I couldn't find the previous file or the name I gave it did not relate to its contents.

\*

Com Station 642 Mars 64290148A  
Clubroom Member  
726288690 TUE 30 JUN 1987 21:31  
NEW!! The Gamers' Board - #642916\_

> I don't know I thought "domains" was an apartment house down at Burling.

It is also used I think to reference the pattern that the iron or other magnetic material is laid out on the Mylar base in disks tapes & even Video.

U F O

Phew...for a moment I thought you didn't know!!

\*

Com Station 642 Mars 64290137A  
Clubroom Member  
063003280 TUE 30 JUN 1987 20:36  
NEW!! The Gamers' Board - #642916\_

> Here's another hint - make sure you actually save any program/data you've been working on and ALWAYS make a backup immediately. Believe me, I'm talking from a very sorry experience.

WOODROW

The back up is the important thing. Its amazing just how often you use them!

(Hi ya mate!)

\*

Com Station 642 Venus 64290154A  
Clubroom Member  
720290090 TUE 30 JUN 1987 22:01  
NEW!! The Gamers' Board - #642916\_

> DB2 the reason that you may need to use a magnet on the disk is that some of the iron particles stick together and can't be realigned by the drive head into a different pattern. The same is true of audio & video tape.

U F O



Dear Dr CoCo,

I have two problems;

One - there is a program called "Shorthand Key Utility" by Bernard Besasparis (June '87 CoCo P51). This program is only written in machine language which means you have to have EDTASM+.

I don't have EDTASM+, and I would really love this utility to use. Can you or anyone at all please supply me with the Basic listing.

I loved John Carmichael's program "Timesave" and would greatly appreciate this one.

Two - "Gunfight" (May '87, CoCo Pg 14). Are there any errors in this program?

I always seem to get an ?OD Error in this program. I have checked it out but everything is fine.

Gavin Stock  
Nth Blackburn, Vic

Gavin,

About your first problem - the Basic version of "Keyboard Shorthand" does not exist! It currently only exists in two forms - the version you see in the magazine and the version that resides on CoCoOz monthly (in the form of a machine language program).

The best way (and possibly the only, for now) for you to get your hands on this is by purchasing the CoCoOz for June 1987.

With your second program, there are no problems that we have encountered - perhaps there is one data statement that was overlooked in your listing?

On the other hand (if you want), you can get the CoCoOz tape for that month, too ...

\*

Dear Dr CoCo,

Thank you for your help in my problems with "Colour Plus" by Brian Ferguson (Aust CoCo, Mar '87 pp 37).

Yes, I went through the program and changed all the "AS" variables to "A1" and this has made the program run 98%.

But now I get a ?DD Error in line 930, but as far as I can see it is only in the text section. I have pressed the Clear key but when I used the

arrow keys to move the cursor around one pixel I get this error.

I have checked and typed the line over and over again and have also checked line 1350 and a few lines before it, but no luck.

I hope I am not causing you any extra work with my problems, but as I am retired now and this is my interest and while I am trying to learn to program, I will need help.

Yours faithfully,  
Arthur Williams  
Harrington, NSW

Arthur,

No, you are causing me no extra work whatsoever - remember, this is my job - to help you out.

There is a small enigma with this particular program, and that shall be discussed later. On to getting your program into operational order: the simplest trick for you is to edit line 930 and insert a 'CLEAR2000:' before the rest of the line.

That should defeat the ?DD error.

Now onto the small enigma.

When we first received "Colour Plus", we examine the program from a simulated view, in other words, we ran the program to see whether or not stood up to what the instructions said it could do.

Now this particular one ran without a hitch - no errors, nothing!

The conditions for this experiment, by the way, is that you have to have a CoCo 3 with a DOS attached plus a copy of the software from CoCoOz on disk.

Now, try to 'EDIT 130'. You will notice that, at the end of the line, is a statement that goes ... 'AS=ASC(A\$)'.

'AS' is a reserved word - in other words it is a word that Basic uses, so in Disk Basic you can't use it as a variable. Tape users can use it, but they stop disk users from using their program if they do.

Now extend the line (press 'X') and type in ... 'REM HI.

Press <enter> and RUN the program. And what do you get? A ?SN Error in 130.

Now, re-edit line 130 and get rid of the REM statement.

And again, re-run the program. Again, the ?SN Error comes back.

It seems that the computer totally ignores the variable 'AS' in line 130, until you have edited it.

Now, why is this so?

If anyone has any bright ideas on this subject, then we'd all like to hear about it ...

\*

Dear Dr CoCo,

In August 1986 of CoCo, there are three programs by C. Bartlett which are configured for a disk system. Can you help me with what is needed to configure them for a tape system?

In the notes describing them on page 16 there is a piece that says ...

"... please note that all these programs have been configured for a disk system. If you intend to use these programs on a non-disk system then the page select subroutine will have to be changed. Also the routines that POKE the new text screen".

I have asked the contacts close to me but have been unable to find out what I need to get them to work properly.

Geraldine Courtney  
Wodonga, VIC

Geraldine,

I have tried to convert the above programs to run on a non-disk system, unfortunately the results are negative.

To make these programs work effectively, one would have to have enough time to fiddle with the program.

Unfortunately, we cannot offer any help or advice, except that you could ring Charles himself.

His number is (079)-28-3771.

\*

Dear Dr CoCo,

I recently upgraded from the old grey case 64K to the CoCo 3 with no advantage apparent in available K using Basic. Some of my machine language programs will not run even with the disk drive disconnected and loaded from tape.

Is there any way to overcome this?

I have written (programmed) a Dungeon & Dragon type game which



involves the interaction of several programs on a disk which I will submit to you if you think you may have use for it.

It is written in Basic; therefore any one with a little imagination could change the programs slightly to give other adventures.

Monsters and treasures to move randomly around an adventure maze.

Yours faithfully,  
J.W. Power

Mr Power,

When Tandy first made the CoCo 3, they decided that it would be compatible with the CoCo 1 and 2, ie everything then ran on the CoCo 1 and 2 would also run on the CoCo 3.

Since the introduction of the CoCo 1 in the early 1980's, the CoCo was only supposed to go up to 16k with 32k being only dreamed about.

Technically, the CoCo could have easily accessed 32k, it's just that they didn't believe that a home computer needed that much memory!

Overall, 32k is all the CoCo 1 could be able to access. 64k can be utilized fully by either (a) using another language, eg OS-9, Flex, etc, or (b) by running your ROM under a RAM system (ie, modifiable ROM, in a sense.)

In short, the CoCo can only access 32k of true user RAM, suitable for Basic programs. (Naturally there has been a program written that can access 40k of memory, but that's only for the CoCo 1, and also another story!)

What I am leading up to is that since the CoCo 3 is supposed to maintain compatibility with the CoCo 1 and 2, it can only access 32k or user RAM under Basic. It is only under languages other than Basic (like the above mentioned languages, OS-9, Flex, etc) can the real 512k of the CoCo 3 be accessed.

To answer your question; no, there is no way to overcome this.

About your program - yes, we certainly do have use for it. Please follow the instructions titled "Submitting Your Work"

We gladly accept such software as there are many such D&D (and AD&D) groups about, and with such a program, it could certainly make a dungeon masters day ... !

Dear Dr CoCo,

I'm into electronics, so if you want my comments or suggestions for your magazine, feel free to ask.

I like the two magazines. I hope they also include a vocabulary or computer jargon and computer theory! Bit by bit! You know what I mean. (In short, I missed all of these!)

About my programming, well still on Basic, but doing fine. It is useful on a course I'm doing. I'll try some other languages later. Can you tell me the difference between assembly language and machine language? They seem the same to me.

Yours sincerely,  
Mr Nolasco  
Gladstone, QLD

Mr Nolasco,

Your comments and suggestions are greatly welcomed by this magazine. Thank you. All computer theory and jargon appear in our other magazine, CoCo, at the beginning of each year (meaning in the January edition of CoCo).

Yes, you are (in theory) right about your statement, re Assembly and Machine language.

The story with assembly language is that assembly is a language to be used as an aid for the user to write his program before the computer turns it into machine language.

It's like this: you're a user. You write programs in Basic, and when you tell the computer to RUN the program, it then turns each individual line into machine language using an interpreter. The Basic code, in effect, is turned into machine language.

The same exists with assembly. You write the program, assemble it (like RUNNING it, only that you take the part of the interpreter without knowing it), EXEC it (a form of a RUN command) and the results are about the same.

I hope that clears that myth up.

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# SUBMITTING YOUR WORK

Ah! So you've finally finished that program? And you say to yourself, "What a great program that would make for CoCo Magazine/Softgold Magazine!"

And so you wonder to yourself, "How am I going to send this program in to the magazine?". Some time goes by and you suddenly realise, "Hey, there's an article in this month's magazine about submitting your work. I'll read through that and maybe that'll help me."

So you rip the magazine out of your stack of other CoCo/Softgold magazines and read the article on how to submit your program.

It reads ...

"... we accept programs stored on both tape and disk ONLY along with a hard copy of the program(s) (optional only; we use it here as a reference to see what the program is/does) and suitable instructions.

## Saving to Tape

Each program would be best saved three times with the last save being in ASCII. The tapes we recommend you use are either a C30 or less (the reason for that is that tapes longer than C30 have a tendency to tear).

It'd be even better if you could include some instructions along with the program, either as a separate program or in the wordprocessors listed below.

## Saving to Disk

With disk, you'd be best to save it three times with the last save being in ASCII. Also, the extension name for the second and third copy should be different, so to distinguish the three copies. A simulation is given below.

'... I have just saved 3 copies of a program called "HORSE". The directory listing would be:

```
HORSE BAS 0 B 3
HORSE 1 0 B 3
HORSE 2 0 A 3'
```

Any instructions could be saved in the same system using either a program or in the wordprocessors listed below.

## Wordprocessors we use.

Here is a list from our most preferable worprocessors to the drastic measure one could take to tell us how your program works.

1. Telewriter/Telepatch
2. Scripsit
3. PenPal
4. VIP Writer
5. Any form of data file.
6. Instructions written in a separate program."

"Oh wow!", you think to yourself as you read it with awe and astonishment. So you go about your busy little way saving your program and instructions to tape or disk. Then you say to yourself, "Where do I send it?"

You read the article on ...

"... any articles and programs should be sent to this address:

Submissions Editor,  
Freeport 5  
PO Box 1742,  
Southport, Qld, 4215

All mail to this address need not be paid for.

All tapes and disks received will be returned after three months in case we need to refer to something or re-print something."

So place your tape/disk along with your hardcopy of the listing in a postpack (or suitable wrapping) and pop it in the mail.

All done!!



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# MICO NEWS

Editor Jim Rogers

## DIGITIZ

MC-10 by Frank Rees

Computer speaking is a fun thing. DIGITIZ contains all the essential elements to record and play digitized sound. The play driver also has other sound applications. I have made it self-locating in memory, so memory size used or other utility programs (like my printer driver) won't cause any relocation problem.

The program is, in every way, self-explanatory. Only the hook-up may need some explaining. After the program is typed in and copies saved to tape by running line 906, disconnect the lead from the computer to the MIC on the recorder. Put the recorder in 'record' mode (with or without a tape) and RUN the program. Select (S)peed - (H)i-fi or (E)xtended play - and when ready, select (R)ecord and start talking. When the time is up, you get an instant replay.

If you have a cassette recorder without a built-in microphone, e.g. R/S CCR-82, you should plug an appropriate Mic into the recorder, or make a tape of what you want to digitize and PLAY it at the appropriate time.

It is a constant source of argument - and delight - to me, when I realize the number of tasks that can be carried out on the MC-10.

With the advent of "Little e" by H. Allen-Curtis, we then passed on to such programs as Mike Turk's "Super Text Processor", Bob Schecter's "McWord", Grahame Pollock's "Rom 1.3" and Telewriter programs etc. etc.

The list is too long to complete but there were many, many more. Now Frank Rees has come up with "Digitiz" which he had published in the US M.C.U.G. newsletter, some time ago.

This will allow the operator to record speech, which can then be played, via the MC-10, through the monitor. It makes the computer talk!

We saw a sample of this in an earlier version last year at CoCo Conf.

We now have the listing plus instructions from Frank for publication.

By the way, Frank tells me that he has Siemens Teleprinter for sale, ready to go as a computer printer for CoCo, MC-10 and many other types. The price is \$85 complete with guarantee and paper can be supplied from \$5 to \$10 a roll.

If any readers should wish for a reprint of any of the old programs, let us know for inclusion in a future issue.

*Jim*

(H)i-fi should give you about 10 seconds of digitized speech, and the (E)xtended play about 20 (depending on available memory.)

Re(P)lay the digitized speech as often as you like. If you wish to make an audio tape of it, plug the computer back into the MIC on the recorder, insert a blank tape and set the recorder to 'record' mode. Re(P)lay the sound (output is to both the TV and Cassette Output.)

If you are interested in a step-by-step explanation of the record/play machine language program, write to:

Frank Rees  
27 King St.  
Boort Vic. 3537

```
100 REM *****
110 REM %
120 REM % - D I G I
130 REM %
140 REM *****
150 REM:
200 REMARKS +++ WARNING SAVE BEF
210 REM:
220 IF PEEK(252)<>0GOTO250
230 SP= PEEK(161)*256+PEEK(162)-
71
240 CLEAR100,SP
250 CLS:PRINT@200,"LOADING DATA"
260 SP= PEEK(161)*256+PEEK(162)+
1:SR= SP+38
270 FOR LOC= SP TO SP+69: READ D
A$
280 MN$=LEFT$(DA$,1): LN$=RIGHT$
(DA$,1)
290 MN= ASC(MN$): MN= MN-48: IF
MN>9 THEN MN=MN-7
```

```
300 LN= ASC(LN$): LN= LN-48: IF
LN>9 THEN LN=LN-7
310 DA= MN*16+LN: POKE LOC,DA: P
RINT@213,DA$: NEXT LOC
320 START= PEEK(153)*256+PEEK(15
4)
330 FINIS=PEEK(155)*256+PEEK(156
)-100
340 N= START: GOSUB700: POKE252,
MSB: POKE253,LSB
350 N= FINIS: GOSUB700: POKE254,
MSB: POKE255,LSB
360 CLS
370 PRINT@260,"EXTENDED PLAY (E)
380 PRINT@196,"HI-FI..... (H)
390 PRINT@338,"YOUR CHOICE ?"
400 AN$=INKEY$: IF AN$="GOTO400
410 PS=4: IF AN$="E" THEN PS=20
420 POKE SP+17,PS: POKESP+54,PS
430 CLS
440 PRINT@132,"RECORD..... (R)"
450 PRINT@196,"PLAY..... (P)"
460 PRINT@260,"SPEED..... (S)"
470 PRINT@338,"YOUR CHOICE ?"
480 AN$=INKEY$: IF AN$="GOTO480
490 IF AN$="R"THEN CLS:PRINT@200
,"RECORDING":EXEC SR
500 IF AN$="S" GOTO360
510 CLS:PRINT@196,"computer spea
king":EXEC SP:GOTO 430
700 MSB=INT(N/256): LSB=N-256*MS
B: RETURN
900 REM:
901 DATA DE,FC,C6,08,A6,00,37,97
,03,16,C4,C0,F7,BF,FF,49,C6
902 DATA 04,5A,26,FD,33,5A,26,ED
,08,9C,FE,26,E4,7F,BF,FF,0D,79
903 DATA 08,03,39,DE,FC,4F,C6,08
,37,D6,03,0C,C5,10,27,01,0D,49
904 DATA C6,04,5A,26,FD,33,5A,26
,ED,08,A7,00,9C,FE,26,E3,39
905 REM:
906 FOR X =1TO3:SOUND30,30:CSAVE
"DIGITIZ":NEXTX
907 REM:
910 REM *****
920 REM %
930 REM % FRANK REES 27 KING ST.
BOORT 3537 VICTORIA AUSTRALIA E
940 REM %
950 REM *****
```



## ANIMATE

**A**NIMATE SHOWS THE power of the PALETTE command. The program shows 4 planets spinning on a scrolling-star background and an "approach trajectory" leading into a planet.

The program takes a while to draw before the animation starts.

The program techniques were developed by Simon Ainsworth on a BBC.

## The Listing:

```
0 GOTO40
1 'ANIMATION
2 'BY CRAIG STEWART
3 SAVE"257:3":END"6
4 SAVE"3ANIMATE:1
5 END
40 POKE 65497,0:ONBRK GOTO630
50 HSCREEN2:PALETTE1,36:PALETTE2
,15:PALETTE3,54:PALETTE6,36
70 HCLSO:HCOLOR1:PI=3.1415926:X=
40:Y=33:R=25:TI=PI/6:GOSUB140
80 X=280:Y=30:R=28:TI=5*PI/4:GOS
UB 140
90 X=150:Y=106:R=70:TI=-7*PI/6:G
OSUB 140
100 X=1:Y=190:R=130:TI=0:GOSUB 1
40
110 GOSUB 340:GOSUB 510
120 HCOLOR1:HPRINT(12,0),"COCO-3
ANIMATION"
130 GOTO 590
140 ' PLANET DRAW
150 HCIRCLE(X,Y),R+2,1:HPAINT(X,
Y),1,1:HCIRCLE(X,Y),R+2,2:HPAINT
(X,Y),2,2
160 CO=3:FOR PH=0TO3.1 STEP.1:HC
OLORCO
170 H=R*COS(PH):W=R:D=0:AL=PI/2+
TI:BE=PI/2:GOSUB 240
180 CO=CO+1:IF CO=9THEN CO=3
190 NEXTPH:HCOLOR1
200 FOR TH=.5TO 2.5 STEP2.5
210 H=-R/4*SIN(TH):W=R*SIN(TH):D
F=R*COS(TH):AL=TI:BE=1.5
220 GOSUB240:NEXT
230 HCOLOR0:HLINE(0,0)-(319,191)
,PSET,B:RETURN
240 S=SIN(AL):C=COS(AL):X3=X:Y3=
Y:X1=X:Y1=Y
250 X=W*SIN(BE):Y=D+H*COS(BE):X2
=C*X+S*Y:Y2=C*Y-S*X
260 IFY1+Y2>191 THEN Y2=191-Y1
```



GRAPHICS

by Craig Stewart

```
270 HLINE(X1+X2,Y1+Y2)-(X1+X2,Y1
+Y2),PSET:FOR GA=-BE TO BE+.1 ST
EP.25
280 Y=D+H*COS(GA):X=W*SIN(GA):X4
=C*X+S*Y:X1=Y4=C*Y-S*X+Y1
290 IFY4>191 THEN Y4=191
300 IF X4<0 THEN X4=0
310 HLINE-(X4,Y4),PSET
320 NEXT: X=X3:Y=Y3:RETURN
330 NEXT: X=X3:Y=Y3:RETURN
340 ' APPROACH PATH
350 X=295:Y=168:R=25
360 CO=9
370 FORT1=0TO1.2STEP.05
380 HCOLORCO:GOSUB430
390 X=.9*X+19:Y=.8*Y+10:R=R*.92
400 CO=CO+1:IF CO=15 THEN CO=9
410 NEXT
420 RETURN
430 X1=X:Y1=Y
440 S=SIN(TI):C=COS(TI)
450 X2=R*(C+S):X1=Y2=R*(C-S)+Y1:
X3=R*(C-S):X1=Y3=R*(-C-S)+Y1:X4=
R*(-C-S)+X1:Y4=R*(S-C)-Y1:X5=R*(
S-C)+X1:Y5=R*(C+S)+Y1:X6=R*(C+S)
+X1:Y6=R*(C-S)+Y1
460 HLINE(X2,Y2)-(X3,Y3),PSET:HL
INE(X2+1,Y2+1)-(X3+1,Y3+1),PSET
```

```
470 HLINE(X3,Y3)-(X4,Y4),PSET:HL
INE(X3+1,Y3+1)-(X4+1,Y4+1),PSET
480 HLINE(X4,Y4)-(X5,Y5),PSET:HL
INE(X4+1,Y4+1)-(X5+1,Y5+1),PSET
490 HLINE(X5,Y5)-(X6,Y6),PSET:HL
INE(X5+1,Y5+1)-(X6+1,Y6+1),PSET
500 RETURN
510 X=RND(-TIMER):FOR I=0TO30
520 X=319:Y=3.6*I+5:X1=-3*(.8+RND
(0)*.8):CO=RND(6)+8:Y1=(-.5+RND
(0))/4
530 CO=CO+1:IF CO=15 THEN CO=9
540 IF Y<0 THEN Y=0
550 P=HPOINT(X,Y):IF P=0 THEN HS
ET(X,Y,CO):HSET(X+1,Y,CO)
560 X=X+X1:Y=Y+Y1:IF X>2 THEN 53
0
570 NEXT:RETURN
580 ' ANIMATE SCENE
590 FOR I=0TO 15:PALETTE 1,0:NEX
T:PALETTE 1,63:PALETTE2,15
600 FOR I=3 TO8:J=1-1:IFJ=2 THEN
J=8
610 PALETTEJ,15:PALETTE 1,63:PAL
ETTEJ+6,0:PALETTEI+6,54
620 NEXT:GOTO600
630 PALETTE CMP:END
```



# ARTIFICIAL INTELLIGENCE

## CONCEPTS, THEORY, and TECHNOLOGY

by Mark E. Perlmuter

In the past year and a half there has been a significant increase in high level programming languages. Artificial Intelligence (AI) seems to be the most written about "new" language.

It is supposed to be natural, and should include a friendly human-computer interface.

Besides being very current, the ambiguities and confusion surrounding AI (Artificial Intelligence) should be explained.

There is a need for a high level programming language that can be easily used and transported between computerized systems.

With more and more time spent in software development, an easier more flexible language is the need of many programmers and consultants.

The approach of simply describing "what" a problem is with facts and rules instead of telling the computer "how" to solve a problem can allow the programmer to reduce the time needed for writing many applications. This is one of the fundamental concepts concerning AI.

There is a need for fewer and fewer "bugs" in off the shelf programs. This is truer now than ever due to the wide spread usage of microcomputers and users in general. These are some of the reasons that could be cited for the need of a solid, reliable, and industry standard for artificial languages.

### THE NATURE OF PROBLEM SOLVING AND DECISION MAKING

For Humans, the structure of thought and creativity is frequently misunderstood with amazingly incorrect

preconceptions. This area of research is so vast, yet immature, that a small introduction via an outline format is the most appropriate at present.

Computers will be presented in a similar format for comparison.

#### 1. Problem solving and decisions....Human Orientation.

Relevant and related factors:

A. Culture as a sociological concept.

This involves how the societal environment affects the individual.

Related factors include the (conscious and unconscious) rules, attitudes, interactive personality structure, traditions, myths, history, perceptual attitudes in architecture, language, geography, and other aspects.

B. Home environment involving family structure and roots.

The localized processes focus on parents, siblings, economics, types and level of nurturing, creation-foundation of self image, interaction with outsiders, and other factors.

C. Genetic coding can possibly affect temperament, behavior, thought processing, creativity, response tendencies, physical health-structure, and other unknown variables.

D. There are also numerous unknown influences affecting one's orientation. Included in this category are drugs, religious beliefs, natural disasters, glandular and love reactions, mass media, disease and/or ill health, radiation, other dimensions, and other unknowns, including possibly psychic influences.

E. All of the above relate to personal reality constructs which affect creativity, intelligence, knowledge, decisions, and the poorly defined word....wisdom.

F. Intelligence is the integration of knowledge to create new ideas and concepts. Wisdom is the self examination and conscious integration of feelings, ideas, needs, desires, and attitudes, with creative experimentation in living. The above is just a short explanation. Good programming only needs intelligence.

#### 2. Problem solving and decisions....the Computer Interface.

Relevant and related factors.

A. The nature of programmers and how they construct their programs affects computer reliability in various processes.

B. There are special restrictions and capabilities in the architecture of various computers. This affects the I/O, operating systems, and how readily bugs will appear.

Programmers must deal with a multitude of capabilities and restrictions.

C. Computer operators, industries, and the businesses using computer hardware-software create a feedback affecting computer development. The computer literacy, mental blocks, background of the users, their needs, reality constructs (in both the business and scientific realms), fears, environmental and lifestyle impositions are factors in applications and languages created for their use and needs.



## THE HISTORY AND BASIS OF ARTIFICIAL INTELLIGENCE

Prolog stands for  
"Programming in Logic".

Lisp is short for "List  
Processing".

Clocksin & Mellish is the  
standard (supposedly) for  
Prolog. The first official  
version of Prolog was developed  
at the University of Marseilles,  
France by Alain Colmerauer.  
John McCarthy of MIT in 1956  
developed Lisp. Common Lisp  
(recognized by the U.S.  
Strategic Computing Initiative)  
is considered the Lisp standard.

In 1983 Japan published plans  
for fifth generation computers  
for which Prolog was the basis  
of the programming environment.

There are more so-called  
standards for AI by various  
groups and countries. The two  
main languages that are  
considered by software makers to  
be the standard for AI are LISP  
and PROLOG. Some Lisp programs  
claim that they can be developed  
into Prolog programs.

There is another language  
used in AI. It is named  
Smalltalk. There is a small  
public domain version of it, if  
you just want to experiment.

There is an official version  
of it named Smalltalk/V produced  
by Digitalk Inc., a company from  
California.

The basis of AI concepts  
began with the 1946 paper by  
Alan M. Turing called  
"Intelligence Machinery".

As one can see by this brief  
overview AI is ambiguous and  
diverse even from its  
beginnings, let alone the  
present.

Prolog starts in a very  
simple format, but it does a  
leap to a flexible yet  
structured language with the  
need of specific patterns in the  
programming structure and  
syntax. There are certain  
versions that allow new  
algorithms to be developed and  
encased in a properly developed  
Prolog program.

Even computer operators would  
be able to make changes in the  
program for handling various new  
functions in the software. This  
is one of the unique aspects of  
AI.

In the Cobol language one  
needs to set up the parameters  
in the beginning of the program.  
It is definitely a structured  
language. In AI one must learn  
how to order the various rules,

facts, variables, etc. making it  
much more structured than many  
articles imply.

The Prolog language is not  
easier to learn than Basic or  
Pascal. I believe that a true  
5th generation piece of software  
should be easier to learn, more  
efficient, with a well written  
manual.

## MICROCOMPUTERS AND ARTIFICIAL INTELLIGENCE

Most versions of these two  
standards now work on general  
purpose (as opposed to  
dedicated) computers. The  
microcomputers with 16 bit CPU's  
or larger are now able to run a  
number of artificial  
intelligence developmental  
programs. This includes both  
the 68000 series (by Motorola,  
such as the Mac and Amiga, etc.)  
and the 8088, 8086, series  
(80286, 80386, 80486 [the 80486,  
a true 64 bit system, is  
presently used by the U.S.  
Dept. of Defense, especially in  
guided missiles; it is not  
available at this time to the  
general public etc. by Intel  
used on IBM, Compaq, Epson,  
Tandy and compatibles). The new  
microcomputer technology is  
quickly erasing the line between  
minicomputers and  
microcomputers. The 80386 can  
directly access 4 gigabytes of  
memory and has 64 tetrabytes of  
virtual memory access.

In any language, there is the  
interpretive stage, the  
compiling and the linking stage.  
Most Lisp and Prolog program  
environments (usually AI  
environments need a  
pretranslator, editor, compiler  
and linker) require between 384K  
and 512K. A few will get by on  
as little as 256K while some  
need 640K.

Almost all versions on the  
market need a hard disk drive.  
Borland's Turbo Prolog, Prolog  
86, APT, and a few others don't  
need a hard disk, but many  
involved applications resulting  
from these programs do need a  
hard disk. Still, there are a  
number of versions that are  
available for the novice to  
experiment on. The majority of  
serious AI (Artificial  
Intelligence) programming  
environments need a hard disk  
and at least 512K. Prices range  
from \$100 to \$6500. Prices do  
not necessarily reflect quality.

## AI THEORY: TRIALS AND TRIBULATIONS

One of the major problems of  
practical AI is that it is based  
on several concepts that are not  
numerically oriented.

The following are some other  
industry problems concerning AI:

1. It is supposed to be  
based upon a natural language.

2. The process of learning  
is not even understood by  
psychiatrists, neurologists,  
psychologists, or educators.

3. Even when a software AI  
company considers a particular  
standard as being the proper  
one, they either give only a  
subset of the functions or  
change/add functions and don't  
mention it until you get the  
product. One such example is  
the Borland Turbo Prolog which  
mentions a Clocksin-Mellish  
discrepancy in chapter 12 of  
their manual.

4. Japan, the U.K., France,  
the U.S.A., and other countries  
differ in what is considered the  
proper AI standard. This mainly  
encompasses Lisp and Prolog and  
what is the proper or best  
version.

5. The definition of the  
nature of intelligence itself is  
quite unclear in both cultural  
and global concepts.  
Intelligence is not just logic,  
symbolic thinking, or list  
processing. It is an  
integration of these 3, the  
Quantum Intuitive Leap Concept  
(QILC), and more processes not  
understood or even imagined.

## THE VARIOUS CONCEPTS AND WHAT IS AGREED UPON

Before explaining the QILC  
concept (which is usually not  
considered by any computer  
specialists), I'll explain the  
elements that most specialists  
do agree upon.

Specialists have considered  
what is the nature of Human  
intelligence with few clear  
results.

Here are some of the areas of  
agreement:

1. "Intelligent" activity is  
closely associated with symbolic  
manipulation. This has been  
observed in modes of  
communication such as words,  
sentences, diagrams, pictures,  
as well as less definitive  
actions such as facial and body  
expression.



2. Organization of thought is usually like a rewrite process (like an author writing a book) constantly reassessing new information in the light of the previous information.

3. Not all thought is forward structured (as most high level computer languages are at present). It usually contains looking at the whole (as in Gestalt), the parts, reviewing from the end to the beginning, various relationships as well as the creation of apparently innovative ideas.

4. Much of the process of thought contains the element of vagueness. The process of reality definition involves a constantly reassessing perceptual experience. This hasn't been addressed in either the creation or usage of most AI versions or the resulting applications.

5. Natural languages are full of ambiguities. One well known example are these context sensitive sentences. "Time flies like an arrow", "Fruit flies like bananas", "The bird flies like the wind", "The jet flies to Chicago", etc. This must and can be overcome.

6. AI is frequently used in the same context as "expert systems". Actually, expert systems are merely a branch of AI. "Expert Systems" are usually set up to mimic how a specialist in a particular field would approach and resolve information, problems, and explaining concepts.

7. Expert systems have the ability to draw conclusions. An example frequently used explaining AI and ES (expert systems): A. All elephants are gray. B. Claude is an elephant. The computer concludes: Claude is gray.

Principles can be built upon if there are sufficient rules and properly related facts.

8. Sensory processes are difficult to duplicate in the computer arena. Even a fly is better able to respond to sensory input. Robotics have a long way to go as well as speech recognition.

9. A well designed AI program must be able to interact with other languages, the I/O of the computer, the wide range of needs of the programmers, less coding as opposed to other high level computer languages, easy to learn, as natural as possible, and be able to use all

the capabilities of the architecture of the computer.

#### CREATIVITY AND COMPUTERS

Personally, I consider ethics, creativity, honesty, and the ability to think and discern the truth to be the most important qualities a Human being can have, with compassion being equally important.

Now, back to the issue at hand ... creativity and computers ... If we can learn from history, then creativity is more possible. There are many books written that are full of inaccuracies. The North American school system is more concerned with the 3 r's than with creative thought or action. In my short span of living, I have been in the "adult" age bracket since the decade of the 60's. I have witnessed a wide variety of truth distortion. Generally, this is a result of TV and other forms of mass media. Creativity can be distorted by encountering school systems and mass media in an unbalanced manner.

Just as a programmer tests for bugs to see if the program works, so too must we test the fabric of reality. I want people to think for themselves, question, and learn with a skeptical yet open mind.

Computers are a new form of controlling tool for both machinery and humans. Computers can also be a creative outlet. They are amazing.

When you use your computer are you being creative, productive, or at least learning?

Creative computing can be productive for the programmers or users. It can also be destructive.

#### CREATIVITY AND STANDARDS

Computers will soon be emulating human thought or appear to do so. The idea in this concept has been referred to as either expert systems or artificial intelligence.

Painters, dancers, and other artists can use the computer to create on, easily saving their ideas. Dancers can have three dimensional choreography from a computer system. Musicians also can use the computer for various creative needs.

The creation of a new video game is quite creative, but the playing of it is no better than TV. It may be more interactive, but - except for specific airplane training and other machine simulation training, video games are not creative.

Consultants can set up and design hardware and configurations suitable for various sized businesses. That too is creative.

Creative computing is really related to creative use of existing and new technologies. The result should be a harmonious union between the users, (if in a business environment) business activities and functions with as little disruption as possible - just an increase in quality productivity.

Many people see computers as scary, frightening, fancy toys, and awe inspiring. Until these people are used to computers, this may be the most common of reactions. Perhaps seeing them as mechanical extensions of ourselves or as tools, our perspectives would allow more creative computing. Our hands are a tool of our body and a hammer is an external tool. Both aid in our productivity and creativity.

For those in the computer field, they are looking for new solutions to old problems. Before micros entered the homes of people, it was a challenge to write complex programs that using little memory.

Now that challenge is gone.

Memory is cheap and usually 1/2 to 1 megabyte is quite common. This situation allows for a wider range of programs but lowers the level of many creative computing attempts.

Creativity now can be concentrated on the type of application as opposed to the development of the application.

When using a standard program application, such as data base or word-processing, the software developers are looking for the little additions that will capture the end users. This means that standardization serves 2 purposes.

1. If a larger segment of the population is going to buy and use the program (and more machines will run the program because of a standard) then the consumer needs should be more



closely scrutinized. This is necessary for better marketing of hardware additions and also the software.

2. Having hardware that will run a standard operating system and communication protocols, allows more people to share in a wider range of computer communications, learning similar programs, with a greater general usage of the various peripherals (such as monitors, modems and printers). This allows high tech development of the peripherals, and this standardization allows for a more concerted effort in a variety of applications.

Some systems are more business oriented, while others are dedicated to engineering, the arts (music and drawing), typesetting for publishing, and machine manipulation in industry.

The new age of home business has become a reality. This includes the entrepreneur, consultant, programmer, executive, writer, and others.

#### WHAT IS THE QUANTUM INTUITIVE LEAP CONCEPT ?

This process (in the modern age) was conceived by those who analyzed the genius function. One famous person was Albert Einstein who determined a number of aspects of Relativity before using math to describe them. It's said that he received the key concepts in a dream.

QILC is only vaguely understood. There are many theories about it, but it is an idea difficult to grasp and its mechanism is generally considered a mystery. Much more could be written about this concept, but it is sufficient to mention it, so that the reader might see the enormous task ahead in real AI development. This concept is examined and explained in part of an unpublished book (I hope it will be fully written and marketed within 3 years). This is a unique function of creativity.

When a quality standard is determined, well designed

AI could truly begin. In the meantime, the market has a number of products that attempt to emulate intelligence, supposedly allowing programmers an easier more flexible process. It has been referred to as fifth generation language and if that

is where AI stands, then the sixth generation should truly be a natural language.

#### SOME EXAMPLES OF AI TERMS

Backtracking - the process of testing statements in a matching process similar to a loop, testing the facts and rules until the final fact or rule, determining validity of the required goal.

Conditions - are the options presented in one or more rules.

Elements - are objects or an ordered sequence making up a list.

Expert system - the ability of a computer system to imitate the ability of an expert in a speciality or field. A decision aid device.

Fact - relationships between objects or a simple piece of data.

List - a collection of constants, variables, and structures. It is an ordered sequence of elements. The contents are usually independent of the structure of the list.

Object - the name of a particular kind of element.

Predicates - are the parts, objects, or subjects contained within a domain similar to the verb in English.

Rule - a set conditions or sub-goals which must be satisfied to make a true "fact".

#### FINAL OVERVIEW

AI is not a new concept in the computer environment, but in relation to other aspects of computer growth, it has been relatively slow in its development.

Industry sources estimate that applied expert systems will grow to one billion dollars by 1990. There are many AI packages that have recently entered the commercial market.

The new public interest has encouraged fast development of these packages, resulting in many incomplete manuals and programs. This field is, at present, very open. For those who wish to get a jump on this new generation of software, read as many critical programmer reviews as possible. Opinions of experienced solidly honest reviewers that can program and are not influenced by the opinions of others, can clarify this field extensively. Due to much of the cost of the wide

variety of AI packages, quality and good solid standards have yet to be set. If you have the opportunity to personally explore AI, do it.

Some packages claim how good the SQL-like (sequel query language) "natural language" interface works. Personally, I have yet to see any "natural language" surpass a good menu system with context sensitive help and a command language. One should question any opinion, realizing that it is only an opinion and subject to error. Even though this is obvious, I have yet to read any mention of this concept of doubt in a computer publication. It is essential to creative and critical assessment of new products of either hardware or software. Still, there is the old saying "don't believe everything you read". I too can make errors just like anything humans create, including computers.

#### FINAL CONCLUSIONS

As readers can see from the variety of ideas and concepts related to AI, this field could be slow in it's development for many years to come. This is due to the wide variety of problems and concepts involved within this language environment.

AI has become something many modes of media are now examining and sharing with the public. There has been an output of a wide variety of experimental software, some of which is supposed to be very sophisticated. "Test the water before you dive in!"

The next generation of high level programming language is bound to include both procedural and nonlinear processing. To be both flexible and efficient, it will need to include a balanced mixture of math and English which is found in many high level programming languages. There are several companies that are working on that now. That will be the true next generation of programming language, in my opinion.

Written by Mark E. Perlmuter.  
Mark E. Perlmuter, a member of M.P. Consultants, who is available for consulting, technical manual writing, and computer product searches. He can be contacted at [phone] (416)493-0514, Canada.



# BORDER

by Harry Hoffmann

**B**ORDER IS DESIGNED for a DMP 105 printer. "Why a DMP 105 printer?", you may ask yourselves. Because the DMP 105 was on special at Tandy a few weeks ago; that's why I bought it.

Now again to the program.

It is designed to print a border of any type. At the beginning you are presented with a menu. Press 'S' to start input.

The computer will draw a grid over which you move a cursor, with the purpose of setting points wherever you wish.

Any set point will be printed to the printer. You can also reset points to erase them.

The 'M' will bring you back to the menu where you have the choice of either printing to printer, viewing the picture or even extending it.

I did not bother including a save and/or load routine, because I believe it is so easy to create or recreate a border - a separate file would be unnecessary.

As you can see in the sample-printout, the possibilities are rather innumerable. Whatever you can do with 28 by 21 dots, consider it a border.

At the beginning and end of the program, depending if you end it through one of the menu options and not <break> out of the program, I have written what I call a title song.

This title song will be a 'Trademark' of mine which will accompany everyone of my future programs.

I would like to give my personal thanks to Craig Steward for the idea.

This program was carefully written on a CoCo 3 so that it should also work on a CoCo 2 ECB with a few modifications.

The only change to be done is the high speed poke in line 560, and the possible omitting of comment lines.

I think this is one of the best programs I have written so far and I will leave you with this for now.

Have a lot of fun with it.

## The Listing:

```

0 GOTO10
5 SAVE"258:3":END'10
6 GOTO10
10 CLEAR 5000: '** TRY LESS **
20 DIM P(28,21)
30 DIM F(3,28)
40 DIM H(28)
50 DIM V(21)
60 DIM E(28,21)
70 POKE150,18: '** 2400 BAUD **
80 CLS0
90 PRINT@98," BORDER PRINTING PR
OGAM ";
100 PRINT@164," FOR DMP 105 PRIN
TER ";
110 PRINT@237," BY ";
120 PRINT@295," HARRY HOFFMANN "
;
130 PRINT@361," CROWS NEST ";
140 '*****
** TITLESONG BY HARRY **
** HOFFMANN CROWS NEST **
*****
145 '*****
* THANKS TO CRAIG STEWARD*
* FOR THE IDEA. *
*****
150 GOSUB160:GOTO230
160 FORX=1TO3:PLAY"T6O3V30L4CV2O
L8CV1OCL8V30CL16V2OCV1OCL8V30DL1
6V2ODV1OL8V30EL16V2OEVL10EL4V30CL
8V16CV1OCL4V30FL8V2OFV10FL4V30EL
8V2OEVL10EL4.V30DL8.V2ODV1OD":NEX
T
170 FORX=1TO3:PLAY"V3OL8GV2OL16G
V10G":NEXT:PLAY"V3OL4.GL8.V2OGV1
OGV3OL8FV2OL16FV10FV3OL4EV2OL8EV
10EL4V30DL8V2ODV1ODL2V30GL4V2OGV
10G":
180 PLAY"V3OL8GV2OL16GV10GV3OL4.
GV2OL8.GV10GV3OL8FV2OL16FV10FV3O
L4EV2OL8EV10EL4V30DL8V2ODV1ODL1V
30CL4V2OCV15CL2V10CV5C":
190 RETURN
200 '
210 ' ***** MENU *****
220 '
230 CLS2:POKE65496,0:POKE65494,0
240 GOSUB 1260
250 PRINT@109,CHR$(128)"menu"CHR
$(128);
260 PRINT@162," [S] START CREATI
NG BORDER ";
270 PRINT@226," [I] INSTRUCTIONS
";
280 PRINT@290," [P] PRINTOUT BOR
DER ";
290 PRINT@354," [X] EXTEND PATTO
N ";
300 PRINT@418," [V] VIEW PICTURE
ONLY ";
310 PRINT@482," [Q] QUIT PROGRAM
";
320 I$=INKEY$:IF I$=""THEN PLAY"
T255V20A":GOTO320
330 IF I$="S"THEN460
340 IF I$="I"THEN1270
350 IF I$="P"THEN1090
360 IF I$="X"THEN540
370 IF I$="V"THEN1250
380 IF I$(">"Q"THEN320
390 CLS8:GOSUB1260
400 PRINT@235,CHR$(128)"finish"C
HR$(128);:PRINT@416,"";:GOSUB160
:END
410 '
420 '
430 ' ** MAIN PROGRAM **
440 '
450 '
460 PMODE4,1:PCL51:SCREEN1,1
470 COLOR0
480 FORX=0TO225STEP8
490 LINE(X,0)-(X,169),PSET
500 NEXTX
510 FOR X=0TO169STEP8
520 LINE(0,X)-(225,X),PSET
530 NEXTX
540 SCREEN1,1:X=2:Y=2:Z=4:H=1:V=
1
550 '**HI-SPEED** CHANGE FOR COC
O 2***
560 POKE65497,0:'POKE65495,0:'*F
OR COCO 2*
570 IF PEEK(341)=247 THEN Y=Y-8:
V=V-1
580 IF PEEK(342)=247 THEN Y=Y+8:
V=V+1
590 IF PEEK(343)=247THEN X=X-8:H
=H-1
600 IF PEEK(344)=247THEN X=X+8:H
=H+1
610 IF V<=1THEN V=1 ELSE IF V=>2
1 THEN V=21
620 IF X<=2 THEN X=2 ELSE IF X>2
18THEN X=218
630 IF H<=1THEN H=1 ELSE IF H=>2
8 THEN H=28
640 IF Y<=2 THEN Y=2 ELSE IF Y>1
62 THEN Y=162
650 LINE(X,Y)-(X+Z,Y+Z),PSET,B
660 FOR DL=1TO10:NEXTDL
670 COLOR1
680 IF PEEK(340)=251 THEN LINE(X
-1,Y-1)-(X+5,Y+5),PSET,BF
690 LINE(X,Y)-(X+Z,Y+Z),PSET,B
700 FORDL=1TO10:NEXTDL
710 COLOR0
720 IF PEEK(339)=254THEN LINE(X-
```







# GRAPHICS QUICKIES

16K ECB

GRAPHICS ENTRY

by Martin Eade

**H**ERE ARE THREE graphics programs for the "Quick on the Draw" competition. The three programs are called (in their order of presentation): "Dr Who", "MTV" and "Eyeball".

"Dr Who" took me a long time to make, especially considering that it has two graphics screens to alternate between.

"Eyeballs" was written by me and a friend of mine, Peter Wright.

"MTV" is all my own creation. Enjoy!

## The Listing:

```
0 *****BY MARTIN EADE *****
1 *****27/4/1987*****
2 GOTO5
3 SAVE"260:3":END'6
5 PCLEAR4
10 PMODE4,1:SCREEN1,1:PCLS5:COLO
R0
11 LINE(66,164)-(66,11),PSET:LIN
E-(111,11),PSET:LINE(166,11)-(20
0,11),PSET:LINE-(200,100),PSET
12 DRAW"BM115,105;C0;R2D1R1D1R2D
RDRDR4U2RURURUR2UR3URU2RU2D
13 LINE(135,99)-(143,113),PSET:L
INE-(136,103),PSET:LINE-(123,114
),PSET:LINE-(115,106),PSET:LINE-
(115,105),PSET
14 PAINT(123,111),0,0:PAINT(130,
106),0,0
15 LINE(110,123)-(113,123),PSET:
LINE(113,122)-(115,122),PSET:LIN
E(115,121)-(121,121),PSET:LINE(1
16,120)-(120,120),PSET:LINE(120,
122)-(125,122),PSET:LINE(124,121
)-(130,121),PSET:LINE(125,120)-(
130,120),PSET:LINE(131,122)-(133
```

```
,122),PSET
16 LINE(133,123)-(136,123),PSET:
LINE(122,125)-(124,125),PSET:LIN
E(116,127)-(118,129),PSET:LINE-(
120,127),PSET:LINE(126,127)-(128
,129),PSET:LINE-(131,127),PSET
17 LINE(67,169)-(67,150),PSET:LI
NE-(98,125),PSET:LINE(106,114)-(
109,108),PSET:LINE-(113,103),PSE
T:LINE-(113,101),PSET
18 LINE(165,113)-(157,131),PSET:
LINE-(149,133),PSET:LINE-(143,14
0),PSET:LINE-(126,144),PSET:LINE
-(124,142),PSET:LINE-(116,143),P
SET:LINE-(112,142),PSET:LINE-(10
6,146),PSET
19 LINE-(106,153),PSET:LINE-(110
,153),PSET:LINE-(118,155),PSET:L
INE-(119,160),PSET:LINE-(124,165
),PSET:LINE-(121,169),PSET:LINE-
(109,170),PSET:LINE-(128,170),PS
ET:LINE-(133,169),PSET:LINE-(130
,166),PSET:LINE-(137,160),PSET:L
INE-(145,160),PSET
20 LINE-(145,163),PSET:LINE-(158
,162),PSET:LINE-(151,160),PSET:L
INE-(151,155),PSET:LINE-(158,147
),PSET:LINE-(162,142),PSET:LINE-
(160,142),PSET:LINE-(157,145),PS
ET:LINE-(155,145),PSET:LINE-(149
,147),PSET:LINE-(137,149),PSET:L
INE-(135,148),PSET:
21 LINE-(147,141),PSET:LINE-(158
,135),PSET:LINE-(167,117),PSET:L
INE-(165,113),PSET:PAINT(140,155
),0,0
22 LINE(155,145)-(164,134),PSET:
LINE-(170,126),PSET:LINE-(180,10
2),PSET:LINE-(179,96),PSET:LINE-
(184,80),PSET:LINE-(186,83),PSET
:LINE-(187,79),PSET
23 LINE(163,190)-(172,135),PSET:
LINE-(169,127),PSET:LINE-(171,13
1),PSET:LINE-(175,121),PSET:LINE
-(179,121),PSET:LINE-(187,128),P
SET:LINE-(206,132),PSET
24 LINE(206,143)-(185,128),PSET:
LINE-(180,128),PSET:LINE-(176,12
```

```
3),PSET:LINE-(176,123),PSET:LINE
-(172,147),PSET
25 PAINT(173,133),0,0:PAINT(185,
127),0,0
26 LINE(98,125)-(97,117),PSET:LI
NE-(95,117),PSET:LINE-(93,115),P
SET:LINE-(92,116),PSET:LINE-(87,
112),PSET:LINE-(89,110),PSET:LIN
E-(89,106),PSET:LINE-(85,99),PSE
T:LINE-(85,96),PSET:LINE-(86,91)
,PSET:LINE-(91,85),PSET
27 LINE-(89,87),PSET:LINE-(87,84
),PSET:LINE-(85,88),PSET:LINE-(8
2,85),PSET:LINE-(84,75),PSET:LIN
E-(84,72),PSET:LINE-(80,63),PSE
T:LINE-(83,53),PSET:LINE-(81,53)
,PSET:LINE-(84,41),PSET:LINE-(96,
34),PSET:LINE-(87,30),PSET:LINE-
(94,20),PSET:
28 LINE-(105,14),PSET:LINE-(105,
11),PSET:PAINT(95,15),0,0
29 LINE(186,112)-(193,109),PSET:
LINE(187,110)-(193,106),PSET:LIN
E(180,102)-(191,106),PSET:LINE(1
88,104)-(194,104),PSET:LINE-(197
,100),PSET:LINE(188,104)-(196,97
),PSET:LINE(186,96)-(189,100),PS
ET:LINE(192,100)-(196,94),PSET
30 LINE(166,11)-(182,21),PSET:LI
NE-(192,51),PSET:LINE-(200,72),P
SET:LINE-(197,75),PSET:LINE-(197
,81),PSET:LINE-(196,85),PSET:LIN
E-(198,83),PSET:LINE-(200,86),PS
ET:LINE-(196,91),PSET:LINE-(192,
100),PSET
31 PAINT(195,30),0,0:PAINT(199,8
0),0,0:LINE(200,100)-(205,104),P
SET:LINE(202,101)-(200,103),PSET
:LINE-(196,99),PSET:PAINT(197,93
),0,0
32 LINE(99,125)-(96,130),PSET:LI
NE-(90,133),PSET:LINE-(89,133),P
SET:LINE-(96,130),PSET:LINE(96,1
30)-(102,131),PSET:LINE-(106,136
),PSET:LINE-(112,142),PSET:LINE(
103,133)-(88,165),PSET
33 LINE(116,89)-(117,82),PSET:LI
NE-(119,80),PSET:LINE-(119,76),P
```



```

SET:LINE-(120,71),PSET:LINE-(115,73),PSET:LINE-(117,82),PSET:LINE-(116,89),PSET:PAINT(118,75),0,0
34 LINE(116,72)-(106,70),PSET:LINE-(104,71),PSET:LINE(116,75)-(110,73),PSET:LINE-(105,76),PSET:LINE(115,79)-(104,79),PSET:LINE(114,78)-(106,78),PSET:LINE(111,77)-(112,77),PSET:LINE(103,80)-(108,80),PSET:LINE(111,80)-(113,80),PSET
35 LINE(106,81)-(108,81),PSET:LINE(111,81)-(113,81),PSET:LINE(107,82)-(112,82),PSET:PSET(108,83,0):PSET(111,83,0):PSET(109,84,0):LINE(121,75)-(124,75),PSET
36 LINE(102,81)-(106,84),PSET:LINE(102,86)-(106,88),PSET:LINE-(113,84),PSET:LINE(127,71)-(126,71),PSET:LINE-(126,73),PSET:LINE-(128,75),PSET:LINE-(136,75),PSET:LINE(134,74)-(137,74),PSET:LINE(135,73)-(138,73),PSET:LINE(136,72)-(139,72),PSET:
37 LINE(133,71)-(141,71),PSET:LINE(128,75)-(136,75),PSET:LINE(129,76)-(135,76),PSET:LINE(129,77)-(134,77),PSET:LINE(129,77)-(127,81),PSET:LINE-(129,82),PSET:PSET(135,77,0):LINE(137,77)-(148,77),PSET:LINE(140,76)-(142,76),PSET:LINE(136,78)-(146,78),PSET
38 LINE(149,78)-(150,78),PSET:LINE(138,79)-(140,81),PSET:PSET(139,79,0):PSET(141,81,0):LINE(142,79)-(147,79),PSET:LINE(142,80)-(144,80),PSET:PSET(147,80,0):PSET(144,81,0):LINE(137,80)-(137,81),PSET:PSET(138,82,0):LINE(139,83)-(142,83),PSET
39 LINE-(143,81),PSET:LINE(134,81)-(134,82),PSET:LINE-(138,85),PSET:LINE-(142,85),PSET:LINE-(146,82),PSET:PSET(140,86)
40 LINE(133,86)-(135,87),PSET:LINE-(138,91),PSET:LINE-(145,91),PSET:LINE-(147,88),PSET:LINE(141,71)-(145,73),PSET:LINE(146,72)-(148,74),PSET:LINE(150,75)-(152,74),PSET:LINE(153,76)-(155,79),PSET:LINE-(157,78),PSET:LINE(154,85)-(154,84),PSET:
41 LINE-(156,83),PSET:LINE(103,149)-(107,180),PSET:LINE-(117,180),PSET:LINE-(126,171),PSET:LINE(110,181)-(110,190),PSET:LINE(111,181)-(111,190),PSET:LINE(105,148)-(103,148),PSET
42 LINE(121,190)-(133,188),PSET:LINE-(133,190),PSET:LINE(134,187)-(134,170),PSET:LINE(135,170)-(135,178),PSET:LINE(135,170)-(139,170),PSET:LINE(140,171)-(139,172),PSET:LINE(141,166)-(141,167),PSET:LINE-(156,182),PSET:LINE-(157,181),PSET:
43 LINE-(156,181),PSET:LINE(161,179)-(165,161),PSET:LINE(163,164)-(163,159),PSET:LINE(164,158)-(164,143),PSET:LINE(163,155)-(163,143),PSET:LINE(165,153)-(165,14

```

```

4),PSET
44 LINE(174,138)-(177,135),PSET:LINE-(180,135),PSET:LINE-(185,137),PSET:LINE(134,173)-(127,173),PSET:LINE(133,175)-(126,178),PSET:LINE(133,177)-(126,180),PSET:LINE(133,181)-(129,184),PSET
45 LINE(150,173)-(155,179),PSET:LINE-(157,179),PSET:LINE-(161,171),PSET:LINE-(159,171),PSET:LINE-(154,175),PSET:LINE-(150,172),PSET:PAINT(158,173),0,0
46 LINE(109,9)-(120,6),PSET:LINE-(129,4),PSET:LINE(111,58)-(118,58),PSET:LINE(119,59)-(129,59),PSET:LINE-(136,56),PSET:LINE-(147,56),PSET:LINE(148,57)-(153,57),PSET:LINE(130,64)-(135,52),PSET:LINE-(139,59),PSET
47 LINE(83,170)-(88,165),PSET:LINE-(91,165),PSET:LINE-(101,156),PSET:LINE-(101,157),PSET:LINE-(92,163),PSET:LINE-(83,170),PSET:LINE(85,147)-(78,160),PSET:LINE-(79,162),PSET:LINE-(77,163),PSET:LINE-(76,172),PSET:LINE-(72,179),PSET:LINE-(73,189),PSET:
48 LINE-(75,179),PSET:LINE-(79,176),PSET:LINE-(77,165),PSET:LINE-(78,175)-(78,181),PSET:LINE(77,182)-(77,187),PSET:PAINT(77,174):LINE(67,185)-(67,189),PSET:LINE(68,175)-(68,189),PSET:LINE(69,187)-(69,189),PSET:LINE(65,157)-(62,161),PSET:
49 LINE-(63,163),PSET:LINE-(59,170),PSET:LINE-(57,168),PSET:LINE-(56,169),PSET
99 FORA=1TO1600:NEXT
100 PMODE4,1:SCREEN1,0:PCLS5:COLOR
101 DRAW"BM76,84;M84,116M93,116M99,94M102,94M108,116M117,116M124,90M126,90M126,116M135,116M135,1,02M142,102M142,116M151,116M151,90M154,90M154,92:BM153,93:M153,108;BM154,109;M154,110M161,117M173,117M180,110M180,109;BM181,108;M181,93M175,81M142,81"
102 DRAW"M142,91M135,91M135,81M119,81M113,100M107,81M95,81M89,100M83,81M62,81M62,82M63,82M76,126M185,126M201,74;BM76,86;M69,86M80,121M181,121M193,79;BM196,78M184,120M181,123M80,123M67,85M77,85;BM79,85;M86,113M91,113M96,91M104,91M110,113M115,113"
103 DRAW"M121,93M121,84M116,103M110,103M105,84M97,84M91,103M86,103M80,83M80,86;BM80,83;M65,83M77,124M184,124M198,77M182,77;BM198,77;M183,124;BM78,124;M66,83"
104 DRAW"BM121,84;M132,84M132,94M145,94M145,84M174,84M178,93M178,108M173,114M161,114M156,108M156,93M159,86M151,86;BM151,87;M154,87;BM151,85;M148,85M148,113M145,113M145,99M132,99M132,113M129,113M129,85M126,85M126,87M124,87M124,84"
105 PAINT(89,107):PAINT(99,88):PAINT(113,108):PAINT(140,96)

```

```

106 DRAW"BM159,94;M165,90M169,90M175,96M175,105M169,111M165,111M159,105M159,94;BM162,96;M165,93M169,93M172,96M172,105M169,108M165,108M162,105M162,96":PAINT(172,86)
107 DRAW"BM98,61;M87,61M87,74M66,74M66,79M110,79;BM112,79M150,79;BM162,79;M176,79M176,66M180,66M180,69M176,69
108 DRAW"BM98,61;M101,67M101,71M100,73;BM101,74;M104,74M104,65M108,61M114,61M118,65M118,74M124,74M123,70M124,66M129,61M134,61M138,65M138,68M134,68M134,66M129,66M129,75M134,75M134,72M138,72M138,74M144,74M144,65M139,65M139,61M153,61M153,65"
109 DRAW"M149,65M149,74M154,74M154,65M158,61M164,61M168,65M168,74M171,74M171,61M184,61M186,63M186,69M184,71;BM185,72;M185,74M201,74"110 DRAW"BM193,79;M180,79M180,73M176,73;BM182,77;M182,64M174,64M174,77M163,77M163,75M165,73M165,65;BM166,66;M166,75M165,76;BM167,76;M171,76;BM173,76;M173,63M184,63M184,69;BM183,70;M183,63;BM178,71;M182,71;BM183,72;M183,76M198,76":PAINT(165,75)
111 DRAW"BM165,64;M163,64;BM164,63;M158,63;BM159,64;M157,64M157,75;BM156,65;M156,74;BM158,74;M159,75M159,77M156,74"
112 DRAW"BM161,78;M161,75M159,73M159,66;BM160,65;M162,65;BM163,66;M163,73;M161,75;BM159,77;M113,77;BM156,76;M149,76;BM144,76;M138,76;BM146,76;M146,64;BM147,64;M147,76;BM141,63;M151,63;BM135,76;M136,76M136,74"
113 DRAW"BM128,76;M126,74M126,66M129,63M134,63M136,65M136,66;BM127,75M127,66M129,64M135,64;BM125,69;M125,71;BM126,76;M117,76;BM113,77;M113,75M115,73M115,66M112,63;BM115,76M116,75M116,65M114,63M108,63M106,65M106,74M108,77M109,77M109,75M107,73M107,65"
114 DRAW"BM109,63":PAINT(114,75):PSET(125,75):DRAW"BM109,77M94,77;BM106,76;M98,76;BM96,76;M94,76;BM92,79;M92,66M95,66;BM96,67M96,73;BM95,74M92,74;BM98,74;M98,65;BM99,67M98,71;BM97,66;M97,63;M89,63M89,76M88,76;BM68,77M90,77M90,64;M96,64"
115 PSET(97,75):PSET(99,75):DRAW"BM111,78M111,75M109,73M109,66;BM110,65;M112,65;BM113,66;M113,73M111,75"
60000 FORB=1TO1600:NEXT:RUN

```

## The Listing:

```

0 REM MTV BY MARTIN EADE 15/5/87
1 GOTO10
3 SAVE"260A:3":END'6
10 PMODE4,1:PCLS5:SCREEN1,0:COLOR
20 DRAW"BM80,185H2U2HUHUH2U2EM74

```



```
,172LHU5HUEUE2RERE2REREU2E2REUE2
UER5E3RE3R2FR3FD3GFRF2RFRFR3U4EU
5ERF2D4F2D4FD2F2DF3DF2RF2DFD4GD2
GD2GDG3DGDG2DG2L2GLHL3HLH2UHLHU3
LG2LE5L8GL2D2GL4G3LGL2"
30 DRAW"BM40,120M40,11M90,11M110
,40M111,40M131,11M180,11M180,54B
M180,11M190,23M190,39BM190,56M19
0,107M180,120M180,71BM180,120M13
0,120M130,66M111,106M110,106M91,
66M91,120M40,120BM91,120M100,107
M100,83BM90,11M114,35BM111,106M1
30,73"
40 DRAW"BM134,110M134,56M113,80M
108,82M106,79M107,75M153,16M157,
14M159,16M159,19M140,45M140,110M
139,113M135,113M134,110BM151,56M
164,78M165,78M197,29M203,26M207,
28M207,32M163,95M164,95M143,60M1
43,57M147,55M151,56"
50 DRAW"BM46,137U13M51,130M56,12
5D13BM59,125D13R8U13BM70,137R8U7
L8U5R8BM80,137U13BM89,137L7U13R7
BM98,137U13NL4R4BM110,137L6U6NR4
U6R6BM119,137L7U13BM128,137L6U6N
R4U6R6BM130,125M132,137M134,125B
M141,137R8U7L8U5R8BM138,137U13"
60 DRAW"BM151,137U13BM154,137U13
R9D13L9BM173,125D13M165,125D13BM
83,161D10BM91,161L6D5R6D5L6BM97,
161D6NR5D4BM102,161D10BM110,161L
6D5NR3D4R6BM112,170U10R5D5L4BM11
4,167M117,170BM125,161L6D5NR3D4R
5BM129,161D7":PSET(128,170)
70 PAINT(187,80):PAINT(187,30):P
AINT(97,90):PAINT(110,33):PAINT(
129,71)
60000 GOTO60000
```



## The Listing:

```
0 POKE65495,0
1 GOT010
2 REM EYEBALLS BY MARTIN EADE AN
DPETER WRIGHT 1987
3 SAVE"260B:3":END'6
4 END
10 PMODE4,1:PCLS5:SCREEN1,0:COLO
R0
20 CIRCLE(142,100),13,,1.5:CIRCL
E(115,100),13,,1.5:CIRCLE(138,98
),4:CIRCLE(120,98),4:PAINT(138,9
8):PAINT(119,98)
30 DRAW"BM16,4M5,16M13,14M3,33M1
3,29M4,49M15,45M2,67M12,63M4,84M
13,80M5,96M10,94M1,114M10,110M1,
129M11,125M3,143M10,140M1,160M12
,153M3,180M47,170M35,181M99,167M
87,179M140,169M129,180M180,169M1
66,178M206,173M235,162M226,160M2
24,147M228,144"
40 DRAW"M224,128M232,122M245,103
M234,99M249,82M236,74M250,61M231
,51M247,39M232,31M240,20M236,16M
249,5M228,6M187,19M186,10M154,15
M151,7M120,17M118,9M95,14M89,12M
75,12M77,3M47,16M45,6M24,12M22,3
M16,4":PAINT(60,60)
60000 GOTO60000
O
```





# SEE YOU AT

# CONF

## BUNDEENA NSW

## AUGUST 8 & 9

Conf '87 is to be held at the Uniting Church's campsite in Bundeena NSW.

This is a particularly pretty area of Sydney, situated on the northern tip of the Royal National Park, in Port Hacking.

The water views are fabulous, and the bushwalks are amongst the best in Australia.

Getting there is not a problem.

Bundeena is reached through the Royal National Park by road or by train to Cronulla and ferry from the nearby wharf to Bundeena.

The conference will be jam packed with all sorts of things to see and do!

The big news this year will obviously be the growing use of OS-9 Level 2 on the CoCo 3's; and Conf '87 will be the definitive place to see this excellent system.

By that time initial users will have had time to sort the system out and create some really interesting stuff.

But it is not just OS-9 that is of interest this year.

Blaxland Computer Services have imported a wide range of new products for the Tandy CoCo 3 and all of this will be on show and in use.

Some of these products are very exciting. For example Colour Max 3 should be available

at the show - a colour version of CoCoMax.

Paris Radio will be bringing their Sculptor based accounting package, all the new OS-9 packages for the CoCo 3, an Atari running OS-9, they'll have a big modem sale, featuring the HAYES compatible Avtek Megamodem, the latest version.

They will also be connected to "Infocenter", Paris Radio's on-line information service.

Infocenter was one of the first on-line services in Australia and continues to be a source of programs and information for Tandy computer owners.

Paris will also have an enormous bookshelf, including "CoCo 3 Peeks and Pokes". There will be memory upgrades for the CoCo 3, Macintosh software running on the Atari, and possibly an Oki Laser Line 6 printer working with the CAD 3-D software package for the Atari 1020.

With the release of the new T1000 EX and SX, interest in these machines has never been higher. We'll have a number of these computers at the conference, as well as their big brothers, the T3000 series, which we'll be putting through their paces.

We've had continuing interest in some of the more diverse

subjects covered in the magazine at past conferences, so again this year we'll have tutorials on hardware mods and on Forth.

There'll be Basic Basic and Advanced Basic courses, and an Assembly Language tutorial as well.

Some of the people attending as lecturers this year include Johanna Vagg, Ron Wright, Jack Fricker, John Redmond, Mike Turk and John Witstyn.

John Witstyn is an expert on MS DOS and especially the IBM PC and he will bring us a broad range of information for Tandy 1000 users.

Other computers will be discussed, principally the 68000 series of computers, and of course, we'll be showing Goldlink 642 on Viatel - and computer communications in general.

Conference is a place to meet old friends, to meet the people behind the names in the magazine, to learn a lot of new information, to see the latest Tandy equipment.

We hope you'll come. We're sure you'll be glad you did. But please hurry your booking, because accommodation (which is not obligatory) and places at the conference, are both limited by the size of the centre.

The cost is increased over previous years due entirely to the fact that we are doing it in



'87

P.O. BOX 1742, SOUTHPORT.  
QLD. 4215 Phone (075) 39-6177

**Rates**

Accommodated (1) \$87.00  
Family of 2, + \$68.00 = \$155.00  
Additional family members \$52.00 ea  
Includes supper Friday evening, breakfast  
lunch and dinner on Saturday and breakfast  
and lunch on Sunday plus all accommodation.

**Non Accommodated Rates**

	One day	Two days
One person	\$20.00	\$35.00
Sat Evening Meal	\$12.00	\$12.00
	=====	=====
	\$32.00	\$47.00

Additional family \$31.50 \$45.50 /person  
Includes morning / afternoon tea and lunch.

**LOCATION:-**

Uniting Church's campsite  
Bundeena NSW

**DATE:-** 8th & 9th August, 1987

**REGISTER NOW!!**

We can only accept a limited number of people this year. **DON'T MISS OUT!** on a top weekend of **FUN, FRIENDSHIP and LEARNING.**

Name: .....

Address: .....

Phone: .....

No. People attending: .....

**SPEAK UP!:-** Now is your chance to suggest your ideas for any tutorials we may not have mentioned. (participants only).

Tutorials likely to attend: .....

Please find enclosed:

chq/money order/bankcard/visa/mastercard

Card No. ....

Signature: .....

Sydney which is a good deal more expensive than the Gold Coast!

On the other hand, many of you will save by not having the additional travelling expenses associated with getting to the Gold Coast.

We have made a genuine error in our pricing for the conference.

I had not previously considered the impact of day visitors on conferences as they have always been on the Gold Coast, basically away from where everyone lives.

Now with conference being in Sydney, things have changed.

If you are a day visitor, it will cost just \$20.00 for one day or \$35.00 for both days per head to be at conference.

Bookings closed on 15th July, but because of the price change I will accept them right through to Conference time.

I'D STILL PREFER YOU TO BOOK. Its very difficult to cater for people when you don't know who is coming!

We aim to make the conference a family affair, and the location is a good one for people with families who are less interested in computers, but who would still like to be with dad or mum for the weekend.

The family can take a ferry trip, go for bush walks, or just laze on the beach, whilst you do your thing at the conference.



# CADDIE

16K ECB  
GRAPHICS

by Tom Lehane

**T**HE GRAPHIC DRAWING of the 1906 CADILLAC was compiled using 'LINE MASTER' from June's issue of Australian CoCo 1986. With a few circles and paint commands added to complete the picture.

To draw CADILLAC I used a clear piece of plastic film (Clad - Wrap) to draw a tracing of the old car, then placing the plastic onto the T.V. screen I traced around the drawing using LINE MASTER.

The whole graphic program took just on 20 minutes to make as LINE MASTER compiles a Basic program for you and CSAVES to tape or disk.

Note : A small typing error appeared in the printed listing of LINE MASTER. Line number 920 should read ...

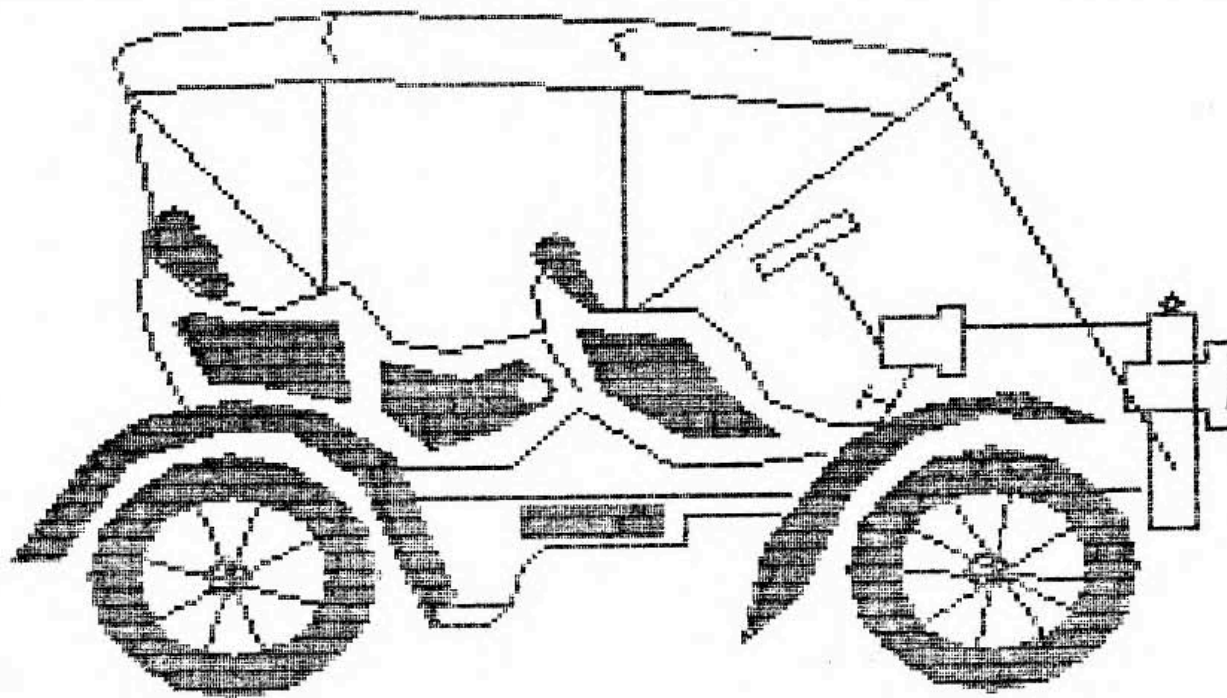
```
IF FM=1 AND PEEK(188) <> 14  
THEN 840
```

For tape users you could DEL that line as it only checks for a disk drive. If you do use the LINE MASTER program and get an error for some reason, just type GOTO 660. This returns the program to the save menu.

## The Listing:

```
0 GOTO10  
3 SAVE"264:3":END'6  
10 REM *****  
20 REM * CADDIE (CADILLAC) *  
30 REM * DRAWING COMPILED BY *  
40 REM * TOM LEHANE USING THE *  
50 REM * GRAPHIC PROGRAM *  
60 REM * - LINE MASTER - *  
70 REM * AUST. COCO JUNE 1986 *  
80 REM * VOL.2,#10 *  
90 REM *****  
100 CLEAR 500  
110 PMODE4:PCLS:SCREEN1,0  
120 FORZ=1TO 143
```

```
130 READ A,B,C,D  
140 LINE(A,B)-(C,D),PSET  
150 NEXT  
160 DATA 48, 34, 46, 28  
170 DATA 46, 28, 48, 24  
180 DATA 48, 24, 54, 22  
190 DATA 54, 22, 86, 18  
200 DATA 86, 18, 136, 20  
210 DATA 136, 20, 190, 28  
220 DATA 190, 28, 192, 32  
230 DATA 192, 32, 136, 80  
240 DATA 134, 80, 134, 34  
250 DATA 134, 34, 180, 40  
260 DATA 134, 28, 132, 24  
270 DATA 132, 24, 136, 22  
280 DATA 84, 18, 82, 24  
290 DATA 82, 24, 84, 28  
300 DATA 48, 34, 82, 32  
310 DATA 82, 32, 134, 34  
320 DATA 82, 32, 82, 76  
330 DATA 82, 76, 48, 34  
340 DATA 48, 34, 52, 58  
350 DATA 52, 58, 50, 78  
360 DATA 50, 78, 52, 86  
370 DATA 52, 86, 58, 100
```



CADILLAC 1906



380 DATA 52, 68, 60, 76  
 390 DATA 60, 76, 72, 80  
 400 DATA 72, 80, 86, 74  
 410 DATA 86, 74, 94, 86  
 420 DATA 94, 86, 104, 88  
 430 DATA 104, 88, 120, 84  
 440 DATA 120, 84, 118, 76  
 450 DATA 118, 76, 120, 72  
 460 DATA 120, 72, 128, 80  
 470 DATA 128, 80, 146, 80  
 480 DATA 146, 80, 152, 86  
 490 DATA 152, 86, 158, 98  
 500 DATA 158, 98, 170, 104  
 510 DATA 170, 104, 178, 104  
 520 DATA 178, 88, 166, 68  
 530 DATA 166, 68, 158, 74  
 540 DATA 158, 74, 156, 70  
 550 DATA 156, 70, 172, 60  
 560 DATA 172, 60, 174, 64  
 570 DATA 174, 64, 166, 68  
 580 DATA 178, 82, 178, 92  
 590 DATA 178, 92, 188, 92  
 600 DATA 178, 82, 188, 82  
 610 DATA 188, 82, 188, 80  
 620 DATA 188, 80, 192, 80  
 630 DATA 192, 80, 192, 94  
 640 DATA 192, 94, 188, 94  
 650 DATA 188, 94, 188, 92  
 660 DATA 192, 84, 224, 84  
 670 DATA 224, 82, 224, 92  
 680 DATA 224, 92, 220, 92  
 690 DATA 220, 92, 220, 102  
 700 DATA 220, 102, 224, 102  
 710 DATA 224, 102, 224, 126  
 720 DATA 224, 126, 232, 126  
 730 DATA 232, 126, 232, 82  
 740 DATA 232, 82, 224, 82  
 750 DATA 226, 92, 234, 92  
 760 DATA 234, 92, 234, 88  
 770 DATA 234, 88, 238, 88  
 780 DATA 238, 88, 238, 106  
 790 DATA 238, 106, 234, 106  
 800 DATA 234, 106, 234, 102  
 810 DATA 234, 102, 224, 102  
 820 DATA 188, 32, 228, 114  
 830 DATA 178, 104, 184, 92  
 840 DATA 216, 104, 202, 98  
 850 DATA 202, 98, 186, 100  
 860 DATA 186, 100, 172, 108  
 870 DATA 172, 108, 158, 128  
 880 DATA 158, 128, 154, 148  
 890 DATA 154, 148, 164, 138  
 900 DATA 164, 138, 172, 118  
 910 DATA 172, 118, 184, 106  
 920 DATA 184, 106, 196, 102  
 930 DATA 196, 102, 214, 104  
 940 DATA 36, 130, 28, 130  
 950 DATA 28, 130, 42, 108  
 960 DATA 42, 108, 50, 102  
 970 DATA 50, 102, 66, 98  
 980 DATA 66, 98, 80, 100  
 990 DATA 80, 100, 94, 110  
 1000 DATA 94, 110, 104, 138  
 1010 DATA 104, 138, 100, 144  
 1020 DATA 100, 144, 88, 114  
 1030 DATA 88, 114, 76, 104  
 1040 DATA 76, 104, 64, 104  
 1050 DATA 64, 104, 48, 110  
 1060 DATA 48, 110, 36, 130  
 1070 DATA 100, 144, 110, 144  
 1080 DATA 110, 144, 114, 140  
 1090 DATA 114, 140, 104, 140

1100 DATA 114, 140, 116, 132  
 1110 DATA 116, 132, 120, 128  
 1120 DATA 120, 128, 144, 128  
 1130 DATA 144, 128, 144, 122  
 1140 DATA 144, 122, 160, 122  
 1150 DATA 162, 118, 98, 118  
 1160 DATA 116, 120, 140, 120  
 1170 DATA 140, 120, 140, 126  
 1180 DATA 140, 126, 116, 126  
 1190 DATA 116, 126, 116, 120  
 1200 DATA 96, 112, 114, 112  
 1210 DATA 114, 112, 126, 100  
 1220 DATA 126, 100, 142, 112  
 1230 DATA 142, 112, 154, 112  
 1240 DATA 154, 112, 168, 110  
 1250 DATA 160, 106, 150, 96  
 1260 DATA 150, 96, 144, 86  
 1270 DATA 144, 86, 126, 84  
 1280 DATA 126, 84, 130, 96  
 1290 DATA 130, 96, 144, 106  
 1300 DATA 144, 106, 160, 106  
 1310 DATA 126, 96, 120, 86  
 1320 DATA 116, 90, 106, 94  
 1330 DATA 106, 94, 92, 90  
 1340 DATA 92, 90, 92, 100  
 1350 DATA 92, 100, 100, 108  
 1360 DATA 100, 108, 112, 104  
 1370 DATA 112, 104, 118, 100  
 1380 DATA 118, 92, 116, 90  
 1390 DATA 84, 82, 86, 98  
 1400 DATA 86, 98, 70, 94  
 1410 DATA 70, 94, 62, 94  
 1420 DATA 62, 94, 56, 82  
 1430 DATA 56, 82, 60, 80  
 1440 DATA 60, 80, 66, 82  
 1450 DATA 66, 82, 84, 82  
 1460 DATA 126, 70, 130, 80  
 1470 DATA 222, 118, 216, 118  
 1480 DATA 210, 126, 186, 144  
 1490 DATA 190, 120, 206, 148  
 1500 DATA 212, 136, 182, 134  
 1510 DATA 200, 118, 194, 150  
 1520 DATA 184, 126, 210, 142  
 1530 DATA 72, 152, 60, 120  
 1540 DATA 50, 144, 80, 126  
 1550 DATA 70, 120, 60, 152  
 1560 DATA 50, 130, 82, 140  
 1570 DATA 176, 96, 174, 100  
 1580 DATA 176, 98, 180, 100

1590 CIRCLE( 197, 134), 25  
 1600 CIRCLE( 197, 134), 17  
 1610 CIRCLE( 66, 134), 25  
 1620 CIRCLE( 66, 134), 17  
 1630 CIRCLE( 118, 96), 4  
 1640 CIRCLE( 56, 62), 4  
 1650 CIRCLE( 59, 68), 5  
 1660 CIRCLE( 63, 74), 3  
 1670 CIRCLE( 122, 68), 4  
 1680 CIRCLE( 228, 80), 2  
 1690 CIRCLE( 196, 134), 4  
 1700 CIRCLE( 65, 134), 4  
 1710 PAINT( 202, 100), 3, 3  
 1720 PAINT( 178, 134), 3, 3  
 1730 PAINT( 44, 136), 3, 3  
 1740 PAINT( 34, 126), 3, 3  
 1750 PAINT( 120, 122), 3, 3  
 1760 PAINT( 148, 102), 3, 3  
 1770 PAINT( 110, 98), 3, 3  
 1780 PAINT( 76, 86), 3, 3  
 1790 PAINT( 60, 74), 3, 3  
 1800 PAINT( 60, 68), 3, 3  
 1810 PAINT( 56, 62), 3, 3  
 1820 PAINT( 52, 66), 3, 3  
 1830 PAINT( 62, 74), 3, 3  
 1840 PAINT( 122, 68), 3, 3  
 1850 PAINT( 126, 74), 3, 3  
 1860 REM LETTERS AND NUMBERS  
 1870 AX\$="EDD4FU6R3D6NL3EU4BUBR3  
 1880 A1\$="BDED6RU6BR3  
 1890 A6\$="BR4L2DLGD3FNU4R3U3NL3F  
 DBU5BR3  
 1900 A9\$="BRFR3D3HNUFR3U3D4G2LR2  
 E2U3BUBR3  
 1910 AA\$="BDD5RU6R3D4NL3D2RU5BUB  
 R3  
 1920 AC\$="BDD4RDU6R2FBD4GL2BU6BR  
 6  
 1930 AD\$="D6RU6R3D6ENU4GL3BU6BR7  
 1940 A1\$="D6RU6BR3  
 1950 AL\$="D6RNU6R2BU6BR3  
 1960 DRAW"EM80,180"+AC\$+AA\$+AD\$+  
 A1\$+AL\$+AL\$+AA\$+AC\$  
 1970 DRAW"EM140,180"+A1\$+A9\$+AX\$  
 +A6\$  
 1980 GOTO 1980

○

#### SEE YOU AT

## CONF '87

**A**S I'M PREPARING SOME material for Softgold on this June long weekend, I help thinking of Greg and all that has happened since his death three years ago.

One of the high points, and I mean high, was CoCoConf 86. I must admit that getting away from my five kids for a few days had something to do with how I felt.

However, there was more to it than that. First of all, I met Graham, Alex and Jim at the office. On the Saturday I met a lot more people who had previously only been names in the magazine.

by Johanna Vagg

Graham has asked me to come and speak aca'n. I'll be there. Will you? I'd like to meet the people who read my articles.

You might be able to give me some idea of the topics you'd like me to cover. Of course you could do that through the mail (keep those cards and letters coming ... as Dino used to say), but nothing beats meeting the people with whom you correspond.

I was pleased to have met the staff at the office - it added another dimension to the phone calls I've made to them since.

○



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product as listed below.

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CoCo Hardware		
Item #	Description	Price
G 001	The CoCoConnection - Use your CoCo to control models, alarms - anything electrical	\$206.00
G 002	Video Amplifier with sound - attach your CoCo 1 or 2 to a Video monitor	\$35.00
G 003	The Probe - A temper- ature sensing unit you plugin to the joy stick port.	\$49.95
G 004	64K Upgrade Kit - up- grade your CoCo2's memory to 64K!	\$55.00

CoCo Software		
Item #	Description	Price
G 1001	Say the Wordz - two Curriculum based speller programs for your Tandy Speech / Sound Pack (32K ECB)	\$29.95

The CoCo 3 Tape/Disk		
Item #	Description	Price
G 1002	# 1	\$16.00
G 1003	# 2	\$16.00
G 1004	# 3	\$16.00

The Best of CoCoOz		
Item #	Description	Price
G 1005	# 1 Education	\$16.00
G 1006	# 2 Part 1 16K Games	\$16.00
G 1007	# 2 Part 2 32K Games	\$16.00
G 1008	# 3 Utilities	\$16.00
G 1009	# 4 Business	\$16.00
G 1010	# 5 Adventure Games	\$16.00
G 1011	# 6 Preschool Edn	\$16.00
G 1012	# 7 Graphics	\$16.00
G 1013	# 8 16K Games	\$16.00
G 1014	# 9 32K Games	\$16.00

G 1015	#10	Education	\$16.00
G 1016	#11	Education (Disk only)	\$16.00

Tandy and IBM PC Hardware		
Item #	Description	Price
Q 001	Colour Monitor (DTX 2001)	\$680.00
Q 002	Mono Monitor	\$190.00
Q 003	Mouse	\$90.00
Q 004	80286 Speed Card	\$550.00

Tandy and IBM PC Software		
Business		
Item #	Description	Price
Q 1001	dBase II	\$1043.00
Q 1002	dBase III	\$1470.00
Q 1003	Sidekick	\$215.00
Q 1004	Turbo Pascal 8037	\$261.00
Q 1005	Turbo Pascal BCD & 8087	\$244.00
Q 1006	Crosstalk	\$306.00
Q 1007	Lotus 123	\$1054.00
Q 1008	Wordstar 2000+	\$927.00
Z 2001	Webster's New World Writer	\$249.00
Z 2002	Webster's Spelling Checker	\$89.95
Z 2003	Webster's Thesaurus	\$89.95
Z 2004	Windowword	\$269.00
Z 2005	Ready	\$99.00
Z 2006	Thinktank	\$385.00

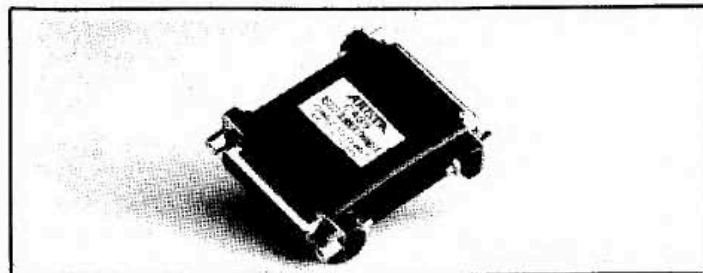
CAD Packages		
Item #	Description	Price
Z 2007	TURBOCAD (V 1.4)	\$399.00

Trade Business Packages		
Item #	Description	Price
Z 2008	The Motor Trade Package	\$99.00
Z 2009	The Professional's Pack	\$99.00
Z 2010	The Retailer's Package	\$99.00
Z 2011	The Rental Package	\$99.00

Accounting		
Item #	Description	Price
Z 2012	Asset Manager	\$1170.00
Z 2013	Cash Desk/Finance Desk	\$399.00
Z 2014	System 4	\$645.00
Z 2015	C.P.A. Plus	\$395.00

Databases		
Item #	Description	Price
Z 2016	Omnus3 IBM-Single user (Multi user versions are available)	\$495.00

Spreadsheets		
Item #	Description	Price
Z 2017	Logistix	\$399.00



ARISTA RS232 - Female to Female Gender Changer.



Fun		
Item #	Description	Price
Q 1020	Ancient Art of War	\$96.00
Q 1021	Print Shop	\$119.00
Q 1022	Gato	\$68.00
Q 1023	Sargon III	\$96.00
Q 1024	Zork I	\$79.00
Q 1025	Zork II	\$79.00
Q 1026	Zork III	\$79.00
Q 1027	Trinity	\$79.00
Q 1028	Ballyhoo	\$79.00
Q 1029	Hitch Hicker's Guide to the Galaxy	\$79.00
Q 1030	Crossword Magic	\$68.00
Q 1031	The American Challenge	\$68.00
Q 1032	Balance of Power	\$89.00
Q 1033	Racter	\$79.00
Q 1034	Jet	\$114.00
Q 1035	Moonmist	\$79.00
Q 1036	Shanghai	\$68.00
Q 1037	Championship Golf	\$89.00
Q 1038	Borrowed Time	\$68.00
Z 2018	The Great International Paper Airplane Construc- tion kit	\$49.95
Z 2019	Star Trek	\$49.95
Z 2020	Championship Boxing	\$69.95
Z 2021	Ultima II	\$69.95
Z 2022	Decision in the Desert	\$69.95
Z 2023	F-15 Strike Eagle	\$69.95
Z 2024	Kings Quest	\$69.95
Z 2025	Mean 18	\$69.95
Z 2026	Boulderdash	\$49.95
Z 2027	Boulderdash II	\$49.95
Z 2028	Conflict in Vietnam	\$69.95
Z 2029	Dambusters	\$69.95
Z 2030	Kings Quest II	\$69.95
Z 2031	FSI-5 Trading Company	\$69.95
Z 2032	Silent Service	\$69.95
Z 2033	Solo Flight	\$69.95
Z 2035	Star Fleet	\$59.95

#### Education

Item #	Description	Price
Z 2036	Chem Lab	\$69.95
Z 2037	Creature Creator	\$59.95
Z 2038	Crypto Cube	\$59.95
Z 2039	Decimal Dungeon	\$49.95

Z 2040	Donald Duck's Playground	\$59.95
Z 2041	European Nations and Locations	\$59.95
Z 2042	Fraction Action	\$49.95
Z 2043	Math Maze	\$59.95
Z 2044	Mickey's Space Adventure	\$69.95
Z 2045	Mission Algebra	\$59.95
Z 2046	Race Car 'Rithmetic	\$49.95
Z 2047	Remember!	\$89.95
Z 2048	Ships Ahoy	\$59.95
Z 2049	Spellagraph	\$59.95
Z 2050	Spellakazam	\$59.95
Z 2051	Spellicopter	\$59.95
Z 2052	Ten Little Robots	\$49.95
Z 2053	Winnie The Pooh in the 100 Acre Wood	\$69.95

#### Miscellaneous Items

Item #	Description	Price
G 2001	Box of 10 DSDD Disks	\$19.00
	10 Boxes plus (per box)	\$16.10
G 2002	Blank C30 Cassettes	\$2.00
	12 Cassettes	\$18.00
G 2003	Tape cases, 12 for	\$5.00
G 2004	Help - Manual for CoCo	\$9.95

#### Modems

Item #	Description	Price
D 001	Manual 1200/75 baud plus 300/300 modem	\$269.00
D 002	IBM Half Card 1200/75 & 300/300 (Auto dial - auto answer)	\$370.00
D 003	Desktop 1200/75 & 300 /300 baud modem (Auto dial - auto answer)	\$425.00

#### Terminal Programs

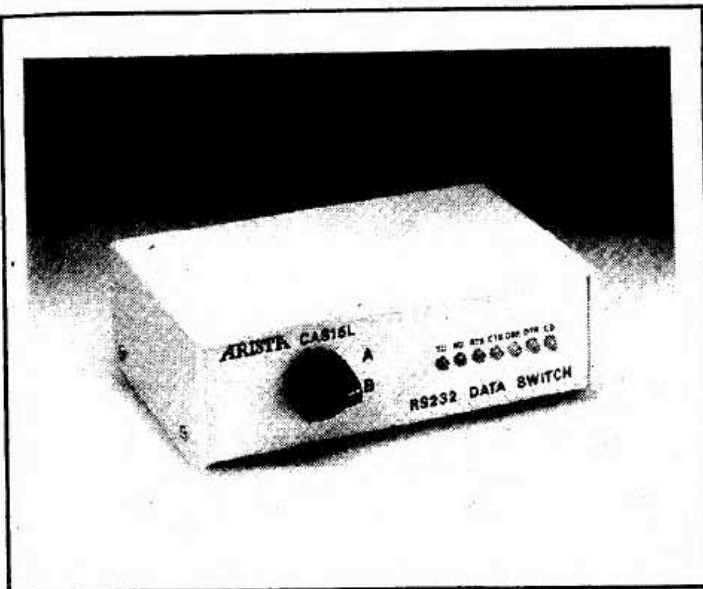
Item #	Description	Price
G 1017	CoCoTex - Videotex pac (Viatel) for all CoCos On Tape	\$79.95
G 1018	CoCoTex as above on disk	\$79.95
G 1019	Vtex 2 - Videotex pac for IBM Compatibles	\$225.00
G 1020	Supertex 2 for Amiga & Atari 520 ST (specify)	\$99.95
G 1021	Interlink - Videotex software for IBM PC's and compatibles	\$94.95

#### Modems/Software/Cable

Item #	Description	Price
G 005	CoCoTex with cable and manual modem	
	(Specify disk or tape)	\$295.00
G 006	CoCoTex with cable and auto dial modem	
	(Specify disk or tape)	\$451.00
G 007	Interlink with cable and manual modem	\$385.00
G 008	Vtex 2 with half card auto modem	\$555.00
G 009	Vtex 2 with desktop auto modem and cable	\$720.00

#### Other Hardware

Item #	Description	Price
A 001	Gender Changer - Male to Male	\$12.45
A 002	Gender Changer Female to Female	\$12.75
A 003	RS232 Data Switch with Tester	\$99.95



ARISTA DATA SWITCH.



# Tandy

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basic language! Create drawings, designs, charts and animation. With 256 x 192 screen resolution, string arrays of up to 255 characters, full featured editing, tracing and so much more! Expands to 64K RAM. 26-3136

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**Color Editor Assembler.** Requires minimum 16K CoCo 2 and tape recorder (in ROM Pak). 26-3250 ..... Reg 99.95 **Sale! 49.95**

**Color Disk Editor Assembler.** Requires 16K Extended CoCo 2 disk drive. 26-3254 ..... Reg 119.95 **Sale! 59.95**

**Disk Scripsit.** Requires minimum 16K Extended CoCo 2 and disk drive. 26-3255 ..... Reg 179.95 **Sale! 99.95**

**Color Profile.** Requires minimum 16K Extended CoCo 2 and disk drive. 26-3253 ..... Reg 99.95 **Sale! 89.95**

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**OS-9 Editor Assembler.** Requires 64K CoCo 2 and disk drive. 20-3030 ..... Reg 129.95 **Sale! 99.95**

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**D.L. Logo.** A programming language that can play music and talk! Requires 64K CoCo 2 and disk drive. 26-3033 Reg 149.95 **Sale! 79.95**

**Pascal-09.** A programming language with enhancements for expanding input/output and the OS-9 operating system. Requires 64K CoCo 2 and disk drive. 26-3034 ..... Reg 179.95 **Sale! 79.95**

(All the above requires 26-3030)

### Color Computer Sesame Street Educational Tape Software:

**Taxi.** Drive around the world! 26-2509 ..... 34.95

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**Big Bird Delivery.** 26-2525 ..... 39.95

**Cookie's Letter.** 26-2526 ..... 39.95

**Grobot.** Creative fun. 26-2527 ..... 34.95

**Timebound.** Planetary action. 26-2528 ..... 34.95

**Flip Side.** Color invasion. 26-2529 ..... 34.95

\*Some of these tape programs may require joysticks.



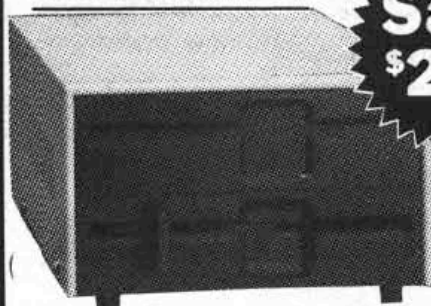
## Color Computer Upgrade Kits

**64K Upgrade for 16K Extended CoCo 2.** Upgrade your existing 16K Extended Color Computer to 64K RAM to double your programming power! 26-9411/12  
Reg 179.95..... **Sale! 99.95**

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Reg 114.95..... **Sale! 49.95**

## Color Thinline Disk Drive

**CLEARANCE**



**Save \$200**

Reg 599.00

**\$399**

Increase your data storage with a second drive—add 156K and SAVE \$300! 156,672 characters of user storage per diskette. Requires installation (not included). 26-3130

## Second Drive for FD-501

Reg 519.95

**Save \$220**

**CLEARANCE**

**299<sup>95</sup>**



**FD-501.** Allows storage of over 156,000 characters of data in color computers with extended BASIC. With 13.3cm double density, 35 track floppy disk drive and more! 26-3129

## Thermal Matrix Printer with Graphics



**Save \$120**

Reg 199.00

**\$79**

**TP-10.** This speedy little printer features an elongation mode for expanding print, with a special repeat function to make graphics programming so much easier! Prints 32 cpl at 30 cps on 10.47cm wide thermal paper. CoCo compatible serial interface only (600 baud). 26-1261

## Computer Cassette Recorder

**59<sup>95</sup>**

Reg 79.95



**Save \$20**

Saves your money and your data! Features volume control with preset marker. It's idea for loading and saving all your valued programmes. A 'must' for tape-based computers. Includes cable. Requires four "AA" batteries or AC adapter (not included). 26-1209

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X	I	C
X	A	C
X	O	E

Another version of the old O's & X's. You have the choice of X or O. X has the first play but if you take the O then the computer will grab the first go. If you can beat the computer on this one then you're a better man than I am Gungha Din. It is not a very elaborately set out game and it is necessary to RUN to start each new game.

#### The Listing TICTACTO:

```
2 PRINT TAB(10); "TICTAC"
6 PRINT:PRINT
10 PRINT " 1 2 3"
12 PRINT " 4 5 6"
14 PRINT " 7 8 9"
16 PRINT:PRINT
20 DIM S(9)
50 INPUT "DO YOU WANT 'X' OR 'O'";C$
```

```
55 IF C$="X" THEN 475
60 P$="O":Q$="X"
100 G=-1:H=1:IF S(5)<>0 THEN 103
102 S(5)=-1:GOTO195
103 IF S(5)<>1 THEN 106
104 IF S(1)<>0 THEN 110
105 S(1)=-1:GOTO195
106 IF S(2)=1 AND S(1)=0 THEN 101
107 IF S(4)=1 AND S(1)=0 THEN 101
108 IF S(6)=1 AND S(9)=0 THEN 109
109 IF S(8)=1 AND S(9)=0 THEN 109
110 IF G=1 THEN 112
111 GOTO118
112 J=3*INT((H-1)/3)+1
113 IF 3*INT((M-1)/3)+1=M THEN K=1
114 IF 3*INT((M-1)/3)+2=M THEN K=2
115 IF 3*INT((M-1)/3)+3=M THEN K=3
116 GOTO120
118 FOR J=1 TO 7 STEP 2:FOR K=1 TO 3
120 IF S(J)<>G THEN 130
122 IF S(J+2)<>G THEN 135
126 IF S(J+1)<>0 THEN 150
128 S(J+1)=-1:GOTO195
130 IF S(J)=H THEN 150
131 IF S(J+2)<>G THEN 150
132 IF S(J+1)<>G THEN 150
133 S(J)=-1:GOTO195
```

```
135 IF S(J+2)<>0 THEN 150
136 IF S(J+1)<>G THEN 150
138 S(J+2)=-1:GOTO195
150 IF S(K)<>G THEN 160
152 IF S(K+6)<>G THEN 165
156 IF S(K+3)<>0 THEN 170
158 S(K+3)=-1:GOTO195
160 IF S(K)=H THEN 170
161 IF S(K+6)<>G THEN 170
162 IF S(K+3)<>G THEN 170
163 S(K)=-1:GOTO195
165 IF S(K+6)<>0 THEN 170
166 IF S(K+3)<>G THEN 170
168 S(K+6)=-1:GOTO195
170 GOTO450
171 IF S(3)=G AND S(7)=0 THEN 187
172 IF S(9)=G AND S(1)=0 THEN 181
173 IF S(7)=G AND S(3)=0 THEN 183
174 IF S(9)=0 AND S(1)=G THEN 189
175 IF G=-1 THEN G=1:H=-1:GOTO110
176 IF S(9)=1 AND S(3)=0 THEN 182
177 FOR I=2 TO 9:IF S(I)<>0 THEN 179
178 S(I)=-1:GOTO195
179 NEXT I
181 S(1)=-1:GOTO195
182 IF S(1)=1 THEN 177
183 S(3)=-1:GOTO195
187 S(7)=-1:GOTO195
189 S(9)=-1
195 PRINT:PRINT "THE COMPUTER MOVES TO..."
202 GOSUB1000
205 GOTO500
450 IF G=1 THEN 465
455 IF J=7 AND K=3 THEN 465
460 NEXT K,J
465 IF S(5)=G THEN 171
467 GOTO175
475 P$="X":Q$="O"
500 PRINT:INPUT "WHERE DO YOU MOVE?";M
502 IF M=0 THEN PRINT "THANKS FOR THE GAME":GOTO2000
503 IF M>9 THEN 506
505 IF S(M)=0 THEN 510
506 PRINT "THAT SQUARE IS OCCUPIED":PRINT:PRINT:GOTO500
510 G=1:S(M)=1
520 GOSUB1000
530 GOTO100
1000 PRINT:FOR I=1 TO 9:PRINT " ";I:IF S(I)<>-1 THEN 1014
1012 PRINT Q$ " ";:GOTO1020
1014 IF S(I)<>0 THEN 1018
1016 PRINT " ";:GOTO1020
1018 PRINT P$ " ";
1020 IF I<>3 AND I<>6 THEN 1050
1030 PRINT:PRINT "-----"
1040 GOTO1000
1050 IF I=9 THEN 1080
1060 PRINT "!";
1080 NEXT I:PRINT:PRINT:PRINT
1095 FOR I=1 TO 7 STEP 3
1100 IF S(I)<>S(I+1) THEN 1115
1105 IF S(I)<>S(I+2) THEN 1115
1110 IF S(I)=-1 THEN 1350
1112 IF S(I)=1 THEN 1200
1115 NEXT I:FOR I=1 TO 3:IF S(I)<>S(I+3) THEN 1150
1130 IF S(I)<>S(I+6) THEN 1150
1135 IF S(I)=-1 THEN 1350
1137 IF S(I)=1 THEN 1200
1150 NEXT I:FOR I=1 TO 9:IF S(I)=0 THEN 1155
1152 NEXT I:GOTO1400
1155 IF S(5)<>G THEN 1170
1160 IF S(1)=G AND S(9)=G THEN 1180
1165 IF S(3)=G AND S(7)=G THEN 1180
1170 RETURN
1180 IF G=-1 THEN 1350
1200 PRINT "YOU BEAT ME! GOOD GAME":GOTO2000
1350 PRINT "I WIN, TURKEY!":GOTO2000
1400 PRINT "IT'S A DRAW. THANK YOU"
2000 END
```



# PULSAR BLAST

by Barry Hanford

**B**arry converted this program for the MC-10 from the original for the CoCo by M. Forde. To operate you use the arrow keys to move the sights and the space bar to fire the missiles. Note that the arrow keys have to be held down when moving the sights. You have to be quick when you are playing this one.

## The Listing:

```

10 CLS
20 PRINT "PULSAR BLAST"
30 PRINT "BY M. FORDE"
35 PRINT "CONVERTED BY B.W. HANFORD"
40 PRINT "FOR THE MC-10"
45 PRINT @232, "ANY KEY TO START";
50 FOR T=1 TO 5: FOR F=1 TO 255: STEP 45: SOUND F, 1: NEXT F: NEXT T
60 IF INKEY$="" THEN 60
70 CLS: FOR O=1 TO 1000: NEXT O
80 MI=10
90 SP=0: U=511: I=480
100 A=RND(500)+5
110 MI=MI+RND(6)
120 CLS
132 CFV=RND(3)
133 IF CFV=1 THEN H$="(-0-)"
134 IF CFV=2 THEN H$="(=0=)"
135 IF CFV=3 THEN H$="I#-#I"
136 ER=ER+RND(3)
140 PRINT @255-32+16-2, "-";: PRINT @255-32+16+2, "-";
160 PRINT @R, " "
170 IF PEEK(16946)=254 THEN A=A-1
171 IF PEEK(16947)=247 THEN A=A+32
172 IF PEEK(16948)=251 THEN A=A+1
173 IF PEEK(16952)=251 THEN A=A-32
174 Q$=INKEY$
175 IF Q$="" THEN 340
180 Z=RND(20)-SP
190 IF SP>16 THEN Z=RND(4)
200 IF Z=1 THEN A=A-32
201 IF Z=2 THEN A=A+32
202 IF Z=3 THEN A=A-1
203 IF Z=4 THEN A=A+1
210 IFA<1 THEN A=1
211 IFA>502 THEN A=502
220 PRINT @I, "MISSILES="MI;
225 PRINT @22, "SCORE="(SP*5)+VB
226 PRINT @480, "LEVEL"; SP;
230 IF MI<1 THEN A=80
240 PRINT @R, H$;
250 IF DF=100 OR RND(20)<>1 THEN 275
260 M=A
261 SOUND 1, 1: SOUND 110, 1: SOUND 200, 1
265 CL=50-ER: IF CL<20 THEN CL=20
270 DF=10
275 PRINT @M, " ";: IF DF=10 THEN 280
276 IF DF<>10 THEN 340
280 IF PEEK(16946)=254 THEN M=M-1
281 IF PEEK(16947)=247 THEN M=M+32
282 IF PEEK(16948)=251 THEN M=M+1
283 IF PEEK(16952)=251 THEN M=M-32
290 IF M<1 THEN M=1
295 IF M>510 THEN M=510
300 PRINT @M, " * ";
310 CL=CL-1
315 PRINT @511-10, "TIMER="CL;
320 REM
330 IF CL<1 THEN A=80
340 IF Q$="" THEN U=511: I=480: MI=M
341-1: FOR T=255 TO 1: STEP -30: GOSUB 520: SOUND T, 1: PRINT @U, " ";: PRINT @I, " ";: NEXT T: GOSUB 700
350 GOTO 140
360 PRINT @R, H$;
380 PRINT @239, " ";: D=239
390 FOR K=1 TO 10: T=RND(4)
400 IFT=1 THEN D=D-1
401 IFT=2 THEN D=D+1
402 IFT=3 THEN D=D-32
403 IFT=4 THEN D=D+32
410 PRINT @D, CHR$(RND(128)+126);
430 IF RND(3)=1 THEN D=239
440 NEXT K
442 FORGH=1 TO 20: SOUND RND(30), 1: NEXTGH
450 SP=SP+1: PRINT @0, "RUSH TO WAV
E "; SP; "!!!";: FOR X=1 TO 1000: NEXT
460 IF Q$="" THEN 470: GOTO 460
470 GOTO 100
480 FORGHJ=1 TO 40: CLS: RND(9)-1: SOUND RND(255), 1: NEXTGHJ
490 PRINT "YOUR SCORE IS-"
500 PRINT (SP*5)+VB
510 PRINT: PRINT: PRINT "ANOTHER GO(Y/N)"
515 A$=INKEY$: IFA$="" THEN 515
516 IFA$="Y" THEN RUN
517 END
520 PRINT @255-32+16, "X";
521 U=U-32-2: I=I-32+2
522 PRINT @255-32+16, " ";
525 PRINT @U, CHR$(92);: PRINT @I, CHR$(47);
530 RETURN
700 IFA+2=255-32+16 THEN 380
710 IF M=255-32+16 THEN 1000
720 RETURN
1000 REM
1010 FORG=1 TO 4: SOUND 1, 1: SOUND 200, 1: NEXTG: VB=VB+RND(3)
1020 REM
1030 DF=0
1035 M=0
1040 GOTO 140

```



# QUEST



## 32K ECB ADVENTURE

by Andrew McLintock

*Editors Note: Over the past few months we have had a few programs that were unprintable due to their length. But because we have changed our policy regarding printing large programs in magazines, we have decided to re-print those few programs which never made it.*

*These programs will be reproduced, text and all in this month's magazine & tape/disk.*

**Q**UEST IS A dungeon and dragon style adventure game where you, the adventurer must destroy the evil magician. To do this you must fight evil monsters, collect various items and unravel the mysteries of the dungeon.

Quest requires 32K ECB. If a cassette is used the Line 0 should be omitted as it is only required for a disk system. The first time the program is run with a disk system present will result in an FC error, but will

run correctly the second time.

Quest has full instructions, so good luck adventurer ... you'll need it!

## The Listing:

```
0 GOTO10
1 'QUEST -- ANDREW McLINTOCK
2 SAVE"QUEST:3":END
10 FILES 0
20 REM **SETTING UP**
30 DIM W$(5),C$(4),A$(3),M$(6),M
(6),R$(6,5),N$(6),CR(6),MD(6)
40 L$=STRING$(31,45)
50 FOR X=1 TO 6:CR(X)=0:MD(X)=2:
NEXIX
60 IF OH>0 THEN 80
70 GOSUB 4350
80 G=RND(20)+RND(35)+RND(40):IF
G<30 THEN 80
90 R$(1,2)="LAMP":MC=RND(6):R$(1
,1)=M$(MC):M(1)=M(MC)
100 R$(2,2)="RING":MC=RND(6):R$(
2,1)=M$(MC):M(2)=M(MC)
110 R$(3,2)="KEY":MC=RND(6):R$(3
,1)=M$(MC):M(3)=M(MC)
120 R$(4,2)="MAGIC SWORD":MC=RND
```

```
(6):R$(4,1)=M$(MC):M(4)=M(MC)
130 R$(5,2)="STAFF":R$(5,3)="POT
ION":MC=RND(6):R$(5,1)=M$(MC):M(
5)=M(MC)
140 R$(6,1)="MAGICIAN":M(6)=20:R
$(0,1)="NONE."
150 X1=15:Y1=100:AC=0:C1=32:AA=0
:B$=STRING$(31,32):C3=0:C5=64:DM
=2:R$(1,0)="2":R$(2,0)="2":R$(3,
0)="2":R$(4,0)="2":R$(5,0)="3":R
$(6,0)="1"
160 C=RND(4):S=RND(12)+3:I=RND(1
2)+3:D=RND(12)+3
170 IF C=1 THEN HP=RND(4)*3 ELSE
IF C=2 OR C=3 THEN HP=RND(4)*2
ELSE IF C=4 THEN HP=RND(3)+RND(3
)
180 IF HP=0 THEN 170 ELSE CC=0
190 IF OH>0 THEN HP=HP+OH
200 OH=HP:GOTO 730
210 CLS:PRINT@11,"--QUEST--"
220 PRINT@32,"ARMOUR":PRINT@47,"
A.C":PRINT@55,"COST"
230 FOR X=1 TO 3:C1=C1+32
240 PRINT@C1,X "A$(X)
250 PRINT@C1+15,X+3
260 NEXIX
270 PRINT@88,"60":PRINT@120,"40"
:PRINT@152,"20"
280 PRINT@192,"WEAPONS":PRINT@20
5,"DAMAGE":PRINT@214,"COST"
290 C1=192
300 FOR X=1 TO 5:C1=C1+32
310 PRINT@C1,X "W$(X)
320 IF X=1 THEN C2=4 ELSE IF X=2
OR X=2 THEN C2=6 ELSE IF X=4 OR
X=5 THEN C2=8
330 PRINT@C1+15,C2
340 NEXIX
350 PRINT@247,"5":PRINT@279,"10"
:PRINT@311,"10"
360 PRINT @343,"15":PRINT@375,"2
0"
370 PRINT@384,"GOLD="G
380 PRINT@416,"ARMOUR/WEAPONS/eN
D"
390 GOSUB1660
400 PRINT@416,B$
410 PRINT@416,"ITEM NUMBER"
420 IF I$="W" THEN 580 ELSE IF I
$="E" THEN 690
430 IF AA=1 THEN 380
440 AA=1
450 GOSUB1660
460 N=VAL(I$):IF N>3 THEN AA=0:G
OTO 380
470 PRINT A$(N)
480 C3=C3+1
490 N$(C3)=A$(N)
500 G4=G
510 IF N=1 THEN G=G-60:AC=4
520 IF N=2 THEN G=G-40:AC=5
530 IF N=3 THEN G=G-20:AC=6
540 IF G<0 THENPRINT@416,B$:PRIN
T@416,"YOU DON'T HAVE ENOUGH GOL
D":FOR X=1 TO 700:NEXIX:C3=C3-1
550 IF I$="1" AND G<0 THEN AA=0
560 IF G<0 THEN G=G4
570 GOTO 370
580 GOSUB1660
590 N1=VAL(I$):IF N1>5 THEN 410
```



```

600 IF C3=0 THEN PRINT@416,"YOU
MUST BUY ARMOUR FIRST":FOR X=1 T
O 700:NEXTX:GOTO 370
610 C3=C3+1
620 IF C3>5 THEN C3=C3-1:PRINT"Y
OU CAN'T CARRY MORE WEAPONS":FOR
X=1 TO 700:NEXTX:GOTO 380
630 PRINT V$(N1)
640 N$(C3)=V$(N1)
650 G4=G
660 IF N1=1 THEN G=G-5 ELSE IF N
1=2 THEN G=G-10
670 IF N1=3 THEN G=G-10 ELSE IF
N1=4 THEN G=G-15 ELSE IF N1=5 TH
EN G=G-20
680 GOTO 540
690 IF S<6 THEN HP=HP-1 ELSE IF
S>6 THEN HP=HP+1 ELSE IF S=6 THE
N HP=HP
700 OH=HP
710 IF I<6 THEN I1=-1 ELSE IF I>
6 THEN I1=1 ELSE IF I=6 THEN I1=
0
720 IF D<6 THEN AC=AC+1 ELSE IF
D>6 THEN AC=AC-1 ELSE IF D=6 THE
N AC=AC
730 CLS:C4=320
740 PRINT@11,"**CLASS**"
750 PRINT@65,"CLASS: "C$(C):PRIN
T@33,"H.P.:"HP
760 PRINT@44,"A.C.:"AC
770 PRINT@97,"STRENGTH:"S
780 PRINT@129,"INTELLIGENCE:"I
790 PRINT@161,"DEXTERITY:"D:PRIN
T@15
800 IF CC>0 THEN 830
810 GOSUB1660
820 CC=CC+1:IF CC=1 THEN 210
830 PRINT@235,"**ARMOUR**"
840 PRINT@256,N$(1)
850 PRINT@299,"**ITEMS**"
860 FOR X=2 TO C3
870 PRINT@C4,N$(X)
880 C4=C4+32
890 NEXTX:PRINT@148,"GOLD:"G
900 GOSUB1660
910 IF CC>2 THEN RETURN
920 REM **MAP**
930 PRINT@448,"PRESS <ENTER> TO
SEE MAP":CCC=1
940 GOSUB1660
950 PNODE 4,1:SCREEN 1,1:PCLS
960 LINE(35,110)-(55,125),PSET,B
970 LINE(30,135)-(60,155),PSET,B
980 LINE(75,110)-(85,140),PSET,B
990 LINE(155,140)-(175,155),PSET
,B
1000 LINE(185,110)-(215,135),PSE
T,B
1010 FOR X=1 TO 20 STEP 5
1020 CIRCLE(130,130),X,5,.5
1030 NEXTX:LINE(X1,Y1)-(X1+5,Y1+
5),PSET,BF
1040 LINE(40,125)-(40,135),PSET
1050 LINE(55,120)-(75,120),PSET
1060 LINE(85,115)-(100,115),PSET
1070 LINE(60,145)-(100,145),PSET
1080 LINE(100,115)-(100,145),PSE
T
1090 LINE(100,130)-(115,130),PSE
T
1100 LINE(145,130)-(160,130),PSE

```

```

T
1110 LINE(160,140)-(160,120),PSE
T
1120 LINE(160,120)-(185,120),PSE
T
1130 LINE(10,90)-(245,180),PSET,
B:GOSUB4510
1140 GOSUB1660
1150 IF CCC=1 THEN 1910 ELSE RET
URN
1160 REM **COMBAT ROUTINE**
1170 MH=M(R):C6=1
1180 C5=64:CR(R)=1:IF MD(R)=0 TH
EN C8=0:C6=0:PRINT"THERE'S NOTHI
NG TO FIGHT.":FOR X=1 TO 700:NEX
TX:RETURN
1190 CLS
1200 PRINT@12,"*COMBAT*"
1210 PRINT@49,"HIT POINTS:"HP
1220 PRINT@32,"ITEMS:";
1230 PRINT@192,L$
1240 FOR X=2 TO C3
1250 PRINT@C5,N$(X)
1260 C5=C5+32:NEXTX
1270 IF C6<1 THEN 1460
1280 PRINT@224,"ENTER WEAPON I.D
NUMBER"
1290 GOSUB1660
1300 WC=VAL(I$)
1310 IF WC>5 THEN 1280
1320 FOR X=2 TO C3
1330 IF N$(X)=W$(WC) THEN 1360
1340 NEXTX
1350 GOTO 1280
1360 IF WC=1 THEN WD=RND(4)
1370 IF WC=2 OR WC=3 THEN WD=RND
(6)
1380 IF WC=4 OR WC=5 THEN WD=RND
(8)
1390 PRINT@256,"YOU ATTACK"
1400 T=RND(20)+I1:IF T<13 THEN 1
450
1410 PRINT@288,"AND HIT !!"
1420 MH=MH-WD:IF MH>0 THEN 1440
ELSE PRINT@352,"YOU KILLED THE "
R$(R,1):MD(R)=1:C6=0:IF LR=1 THE
N HP=OH
1430 IS=INKEY$:IF IS="" THEN 1430
ELSE RETURN
1440 PRINT@320,"YOU DID"WD"POINT
S OF DAMAGE":GOTO 1460
1450 PRINT@288,"BUT MISS"
1460 PRINT@352,"THE "R$(R,1)" AT
TACKS"
1470 T=RND(20)+MH:IF T<RND(3)+14
-AC THEN 1510
1480 PRINT@384,"AND HITS YOU !!"
1490 MD=RND(2):HP=HP-MD:IF HP<1
THEN PRINT@416,"YOU HAVE LOST AL
L OF YOUR HIT POINTS.THE MONSTER
HAS KILLED YOU.":FOR X=1 TO 11
00:NEXTX:GOTO 4210
1500 PRINT@416,"YOU LOOSE "MD" H
IT POINTS":GOTO 1520
1510 PRINT@384,"BUT MISSED YOU"
1520 PRINT@448,"DO YOU WANT TO F
IGHT OR FIGHT"
1530 GOSUB1660
1540 IF IS="F" THEN C6=1:GOTO 11
80
1550 IF IS">"R" THEN 1520
1560 C6=RND(3):IF C6=1 THEN 1580

```

```

1570 PRINT@448,"YOU FAILED TO EV
ADE THE MONSTER":FOR X=1 TO 700:
NEXTX:GOTO 1180
1580 PRINT@448,"YOU HAVE EVADIED
THE MONSTER":C6=1:FOR X=1 TO 70
0:NEXTX:RETURN
1590 CLS:PRINT@15:PRINT@24,"H.P.
"HP
1600 PRINT@33,R$
1610 PRINT@15:PRINT@5;
1620 FORX=1TOVAL(R$(R,0)):PRINTR
$(R,X);:PRINT" ";
1630 NEXTX:PRINT:PRINT@15:PRINTD$
;:PRINT@25:PRINT@15
1640 IF C6=1 THEN ON R GOTO2180,
2360,2620,2810,3240,3420
1650 INPUT"COMMAND";CIS:RETURN
1660 IS=INKEY$:IFIS="" THEN1660EL
SERETURN
1670 REM **GENERAL COMMANDS**
1680 COS=LEFT$(CIS,2):CD$=LEFT$(
CIS,4):C8=0:CD1=VAL(CIS):CD1=LEN
(CIS)
1690 IF COS="FI" THEN GOSUB 1160:
GOTO 1890
1700 IF CR(R)=0 THEN PRINT"YOU M
UST FIGHT THE MONSTER.":FOR X=1
TO 700:NEXTX:GOTO 1890
1710 IF COS="MA" THEN GOSUB 950:G
OTO 1890
1720 IF COS="RU" THEN C6=1:GOTO 1
890
1730 IF COS="IN" THEN CC=3:GOSUB
730:GOTO 1890
1740 IF CD$="TABL" THEN GOSUB 512
0:GOTO 1890
1750 IF CD$="DROP" THEN GOTO 1760
ELSE C8=1:GOTO 1890
1760 DI$=RIGHT$(CIS,CD1-5)
1770 IF DI$=A$(1) OR DI$=A$(2) O
R DI$=A$(3) THEN PRINT"YOU CAN'T
DROP ARMOUR":FOR X=1 TO 700:NEX
TX:GOTO 1890
1780 FOR X=2 TO C3
1790 IF DI$=N$(X) THEN DI=X:GOTO
1810
1800 NEXTX:PRINT"YOU DON'T HAVE
A "DI$:FOR X=1 TO 700:NEXTX:GOTO
1890
1810 FOR X=DI TO C3-1
1820 N$(X)=N$(X+1)
1830 NEXTX
1840 N$(X)="" :C3=C3-1
1850 IF DI$="RING" THENPRINT"BECA
USE YOU DROPPED THE RING YOUR A.
C DECREASES.":AC=AC+1:FORX=1TO70
0:NEXTX
1860 IF DI$="MAGIC SWORD" THENPR
INT"YOU LOSE ONE H.P BECAUSE YOU
DROPPED THE SWORD.":HP=HP-1:FOR
X=1TO700:NEXTX:IF HP<1 THEN 4290
1870 V=VAL(R$(R,0)):V=V+1
1880 R$(R,V)=DI$:R$(R,0)=STR$(V)
1890 RETURN
1900 REM **ROOM SET UP**
1910 CCC=2:S$="I CAN'T CARRY ANY
MORE"
1920 O$="ITEMS":D$="DIRECTIONS:
"
1930 GOTO2050
1940 IFC3<5THEN1950ELSEPRINTS$:G

```



```

$="":GOTO1970
1950 FORX=1TOVAL(R$(R,0)):IFG$=R
$(R,X)THENG1=X:GOTO1990
1960 NEXTX:PRINT"I CAN'T GET THA
T, IT'S NOT HERE."
1970 I$=INKEY$:IF I$=""THEN1970ELSEK9=1
1980 RETURN
1990 IF DM=0ANDG$=R$(R,1)THENPRI
NT"I CAN'T GET A MONSTER":GOTO19
70
2000 C3=C3+1:N$(C3)=G$
2010 FOR X=G1 TO VAL(R$(R,0))-1:
R$(R,X)=R$(R,X+1):NEXTX
2020 RETURN
2030 FORX=1TOVAL(R$(R,0))-1
2040 R$(R,X)=R$(R,X+1):NEXTX:RET
URN
2050 REM **ROOM 1**
2060 C6=0:X1=40:Y1=115:R=1:R1$="
ENTRANCE":R2$="SOUTH;EAST":R3$="Y
OU ARE STANDING AT THE BOTTOM OF
SOME STAIRS. THE WALLS ARE MA
DE OF ROCK, THERE IS A DOOR IN TH
E EAST CORNER."
2070 GOSUB1590
2080 GOSUB 1680:IF C6=1 THEN 207
0 ELSE IF MD(R)=1 THEN 2240 ELSE
IF C8<>1 THEN 2070
2090 IF C1$="OPEN DOOR" THEN C7=
1:GOTO 2070
2100 IF C1$<>"GO DOOR" THEN 2120
ELSE IF C7=1 THEN 2460 ELSE IF
C7<>1 THEN PRINT"THE DOOR IS CLO
SED."
2110 I$=INKEY$:IF I$=""THEN 2110
ELSE 2070
2120 IF CD$="GET "THEN G$=RIGHT$
(C1$,CD1-4) ELSE 2190
2130 GOSUB1940:IFG$="LAMP"THENC9
=1
2140 IFK9<>1THEN2160ELSEK9=0
2150 GOTO2070
2160 R$(R,X)="" :V1=VAL(R$(R,0)):
V1=V1-1:R$(R,0)=STR$(V1)
2170 GOTO 2070
2180 IF C6<>1 THEN 2190 ELSE INP
UT"WHICH DIRECTION";I$:CD$=LEFT$
(I$,4)
2190 IF CD$="SOUT" THEN 2270
2200 IF CD$="EAST" OR CD$="NORT"
OR CD$="WEST" THEN PRINT"YOU CA
N'T GO THAT WAY":FOR X=1 TO 700:
NEXTX:IFC6<>1THEN2070
2210 IFC6=1THEN2180
2220 IF CD$="LOOK" THEN 2070
2230 PRINT"I DON'T UNDERSTAND."C
I$:GOTO 2110
2240 GOSUB2030
2250 MD(1)=0:GOTO 2160
2260 REM **ROOM 2**
2270 C6=0:X1=40:Y1=140:R=2:R1$="
GREAT HALL":R2$="NORTH;EAST":R3$=
"YOU ARE IN A LARGE HALL, THERE
ARE OLD TABLES AND CHAIRS PLACED
ALONG THE WALLS."
2280 GOSUB1590
2290 GOSUB 1680:IF C6=1 THEN 228
0 ELSE IF MD(R)=1 THEN 2430 ELSE
IF C8<>1 THEN 2280
2300 IF CD$="GET "THEN G$=RIGHT$
(C1$,CD1-4) ELSE 2370

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2310 GOSUB1940:IFG$="RING" THENP
RINT"THE RING IMPROVES YOU A.C":A
C=AC-1:FORC1=1TO700:NEXTC1
2320 IFK9<>1THEN2340ELSEK9=0
2330 GOSUB2280
2340 R$(R,X)="" :V1=VAL(R$(R,0)):
V1=V1-1:R$(R,0)=STR$(V1)
2350 GOTO 2280
2360 IF C6<>1 THEN 2370 ELSE INP
UT"WHICH DIRECTION";I$:CD$=LEFT$
(I$,4)
2370 IF CD$="EAST" THEN 3740
2380 IF CD$="NORT" THEN 2060
2390 IF CD$="SOUT" OR CD$="WEST"
THEN PRINT"YOU CAN'T GO THAT DI
RECTION":FOR X=1 TO 700:NEXTX:IF
C6<>1 THEN 2280
2400 IFC6=1THEN2360
2410 IF CD$="LOOK" THEN 2280
2420 PRINT "I DON'T UNDERSTAND "
C1$:GOSUB1970:GOTO 2280
2430 GOSUB2030
2440 MD(2)=0:GOTO 2340
2450 REM**ROOM 3**
2460 FOR X=1 TO C3:IF N$(X)="LAM
P" THEN C9=1
2470 NEXTX
2480 C6=0:X1=77:Y1=120:R=3:R2$="
EAST;WEST"
2490 CLS:PRINT"SECRET PASSAGE":R
=3
2500 PRINT@24,"H.P.:HP
2510 IF C9<>1 THEN 2540 ELSE PRI
NT@33,"YOU ARE IN A LONG,THIN PA
SSAGE WITH GREEN SLIME COVERING
THE WALLS.THERE IS ANOTHER PAS
SAGE AT THE OTHER END.":GOTO 25
20
2520 GOSUB1610
2530 IF C6=1 THEN 2620
2540 IF C9=0 AND C1$="WEST" THEN
2060 ELSE IF C9=0 THEN PRINT" I
T'S TOO DARK TOO SEE.YOU FALL AN
D BREAK YOUR NECK":FOR X=1 TO 10
00:NEXTX:GOTO 4210
2550 GOSUB 1680:IF C6=1 THEN 249
0 ELSE IF MD(R)=1 THEN 2690 ELSE
IF C8<>1 THEN 2490
2560 IF CD$="GET " THEN G$=RIGHT
$(C1$,CD1-4) ELSE 2630
2570 GOSUB1940:IFG$="KEY" THENK1
=1
2580 IFK9<>1THEN2600ELSEK9=0
2590 GOSUB2490
2600 R$(R,X)="" :V1=VAL(R$(R,0)):
V1=V1-1:R$(R,0)=STR$(V1)
2610 GOTO 2490
2620 IF C6<>1 THEN 2630 ELSE INP
UT"WHICH DIRECTION";I$:CD$=LEFT$
(I$,4)
2630 IF CD$="WEST" THEN 2060
2640 IF CD$="EAST" THEN 3620
2650 IF CD$="NORT" OR CD$="SOUT"
THEN PRINT"YOU CAN'T GO THAT DI
RECTION":FOR X=1 TO 700:NEXTX:IF
C6<>1 THEN 2490
2660 IFC6=1THEN2620
2670 IF CD$="LOOK" THEN 2490
2680 PRINT"I DON'T UNDERSTAND "C
I$:GOSUB1970:GOTO 2490
2690 GOSUB2030
2700 MD(3)=0:GOTO 2600

```

```

2710 REM**ROOM 4**
2720 C6=0:X1=130:Y1=130:R=4:R1$=
"LAKE":R2$="EAST;WEST":R3$="YOU A
RE STANDING ON THE EDGE OF A CRY
STAL CLEAR LAKE. THERE IS A SWOR
D IN THE MIDDLE OF THE LAKE."
2730 GOSUB1590
2740 GOSUB 1680:IF C6=1 THEN 273
0 ELSE IF MD(R)=1 THEN 2880 ELSE
IF C8<>1 THEN 2730
2750 IF CD$="GET " THEN G$=RIGHT
$(C1$,CD-4) ELSE 2820
2760 GOSUB1940:IFG$="MAGIC SWORD
"THEN PRINT"THE SWORD HAS GIVEN
YOU 1 EXTRA H.P":HP=HP+1:FORC1=1
TO700:NEXTC1
2770 IFK9<>1THEN2790ELSEK9=0
2780 GOTO2730
2790 R$(R,X)="" :V1=VAL(R$(R,0)):
V1=V1-1:R$(R,0)=STR$(V1)
2800 GOTO 2730
2810 IF C6<>1 THEN 2820 ELSE INP
UT"WHICH DIRECTOIN";I$:CD$=LEFT$
(I$,4)
2820 IF CD$="EAST" THEN 3980
2830 IF CD$="WEST" THEN 3860
2840 IF CD$="NORT" OR CD$="SOUT"
THEN PRINT"YOU CAN'T GO THAT DI
RECTION":FOR X=1 TO 700:NEXTX:IF
C6<>1 THEN 2730
2850 IFC6=1THEN2810
2860 IF CD$="LOOK" THEN 2730
2870 PRINT"I DON'T UNDERSTAND "C
I$:GOSUB1970:GOTO 2730
2880 GOSUB2030
2890 MD(4)=0:GOTO 2790
2900 REM **ROOM 5**
2910 C6=0:X1=160:Y1=145:CLS
2920 K1=0:FOR X=1 TO C3:IF N$(C3
)="KEY"THEN K1=1
2930 NEXTX
2940 PRINT"THERE IS A CLOSED DOO
R"
2950 INPUT"COMMAND";C1$
2960 IF C1$="NORTH" THEN 3980
2970 IF C1$="OPEN DOOR" THEN PRI
NT"THE DOOR IS LOCKED.":GOTO 295
0
2980 IF C1$="UNLOCK DOOR" AND K1
=1 THEN 3010 ELSE IF C1$="UNLOCK
DOOR" AND K1<>1 THEN PRINT"YOU
DON'T HAVE A KEY"
2990 GOTO 2950
3000 FOR X=1 TO 700:NEXTX:GOTO 3
980
3010 R=5:R1$="SPELL ROOM":R2$="N
ORTH":R3$="YOU ARE STADING IN A R
OOM FULL OF OLD BOTTLES.THERE IS
A POTION AND A STAFF ON A OLD T
ABLE."
3020 GOSUB1590
3030 GOSUB 1680:IF C6=1 THEN 302
0 ELSE IF MD(R)=1 THEN 3300 ELSE
IF C8<>1 THEN 3020
3040 IF CD$="GET "THEN G$=RIGHT$
(C1$,CD-4) ELSE 3250
3050 IFC3+1>6THENPRINTS$:GOTO309
0
3060 FOR X=1 TO VAL(R$(R,0))
3070 IF G$=R$(R,X) THEN G1=X:GOT
O 3100
3080 NEXTX:PRINT"I CAN'T GET THA

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T, IT'S NOT HERE."
3090 IS=INKEY$: IF IS="" THEN 3090
ELSE 3020
3100 IF DM=0 AND G$=R$(R,1) THEN
PRINT "I CAN'T GET A MONSTER": GO
TO 3090
3110 IF G$="POTION" THEN K2=RND(
3) ELSE 3150
3120 IF I2=1 THEN 3150
3130 IF K2=3 THEN PRINT "THE POTI
ON WAS POSITION. YOU LOOSE 2 HIT PO
INTS.": HP=HP-2: IF HP>0 THEN 3160
ELSE FOR X=1 TO 700: NEXT X: I2=1:
GOTO 4210
3140 PRINT "IT WAS A HEALING POTI
ON. YOU GET 4 HIT POINTS.": HP=HP+
4: I2=1: GOTO 3160
3150 IF G$="STAFF" THEN PRINT "IT
'S A STAFF OF LIGHTING BOLT, BUT
IT ONLY HAS ONE CHARGE.": K3=1
3160 GOSUB 1660
3170 C3=C3+1
3180 N$(C3)=G$
3190 FOR X=G1 TO VAL(R$(R,0))-1
3200 R$(R,X)=R$(R,X+1)
3210 NEXT X
3220 R$(R,X)="" : V1=VAL(R$(R,0)):
V1=V1-1: R$(R,0)=STR$(V1)
3230 GOTO 3020
3240 IF C6<>1 THEN 3250 ELSE INP
UT "WHICH DIRECTION": IS=CD$=LEFT$(
IS,4)
3250 IF CD$="NORT" THEN 3980
3260 IF CD$="SOUT" OR CD$="EAST"
OR CD$="WEST" THEN PRINT "YOU CA
N'T GO THAT DIRECTION.": FOR X=1
TO 700: NEXT X: IF C6<>1 THEN 3020
3270 IFC6=1 THEN 3240
3280 IF CD$="LOOK" THEN 3020
3290 PRINT "I DON'T UNDERSTAND "C
IS: GOTO 3090
3300 GOSUB 2030
3310 MD(5)=0: GOTO 3220
3320 REM **ROOM 6**
3330 C6=0: R=6: R1$="THRONE ROOM":
R2$="WEST": R$="YOU ARE IN A MAGN
IFICANT THRONE ROOM. THERE IS A
EVIL MAGICIAN ON A GOLDEN THRONE
. <<YOU MUST KILL THE MAGICIAN>
>."
3340 GOSUB 1590
3350 FOR X=1 TO C3: IF N$(C3)="STAFF"
THEN K3=1: NEXT X
3360 IFC1$="USE STAFF" OR C1$="FIR
E STAFF" AND K3=1 THEN 3370 ELSE 3390
3370 IFC4=1 THEN 3400 ELSE M(6)=M(6
)-10: K4=2: PRINT "YOU HIT THE MAGI
CIAN AND HE LOST 10 HIT POINTS":
IF M(6)<1 THEN FOR X=1 TO 700: NEXT X: GO
TO 4270
3380 PRINT "THE STAFF HAS LOST AL
L IT'S CHARGES.": K4=1: GOTO 3410
3390 GOSUB 1680: IF C6=1 THEN 334
0 ELSE IF MD(R)=1 THEN 3470 ELSE
IF C8<>1 THEN 3340
3400 PRINT "THE STAFF HAS NO CHAR
GES LEFT.": GOTO 3410
3410 IS=INKEY$: IF IS="" THEN 3410E
LSE 3340
3420 IF C6<>1 THEN 3430 ELSE INP
UT "WHICH DIRECTION": IS=CD$=LEFT$(
IS,4)
3430 IF CD$="WEST" THEN 4100
3440 IF CD$="NORT" OR CD$="SOUT"
OR CD$="EAST" THEN PRINT "YOU CA
N'T GO THAT DIRECTION": FOR X=1 T
O 700: NEXT X: IF C6<>1 THEN 3340
3450 IFC6=1 THEN 3340
3460 PRINT "I DON'T UNDERSTAND ";
CIS: GOTO 3410
3470 GOSUB 2030
3480 MD(6)=0: R$(R,X)="" : V1=VAL(R
$(R,0)): V1=V1-1: R$(R,0)=STR$(V1)
: GOTO 4280
3490 REM **INTERSECTION COMMANDS
**
3500 C0$=LEFT$(CIS,2): C8=0: CD$=L
EFT$(CIS,4)
3510 IF C0$="IN" THEN CC=3: GOSUB
730: GOTO 3590
3520 IF C0$="NA" THEN PRINT "IT'S
TOO DARK TO READ THE MAP.": GOTO
3600
3530 IF C0$="FI" THEN PRINT "THER
E IS NOTHING TO FIGHT.": GOTO 360
0
3540 IF C0$="RU" THEN PRINT "THER
E IS NOTHING TO RUN FROM.": GOTO
3600
3550 IF C0$="GE" THEN PRINT "THER
E IS NOTHING TO GET HERE.": GOTO
3600
3560 IF C0$="DR" THEN PRINT "IF I
DROP THAT I WILL LOOSE IT.": GOT
O 3600
3570 IF C0$="TA" THEN GOSUB 5120
: GOTO 3590
3580 C8=1
3590 RETURN
3600 IS=INKEY$: IF IS="" THEN 3600
ELSE RETURN
3610 REM **INTERSECTION 1**
3620 CR=0: R=0: R1$="PASSAGE": R2$=
"SOUTH; WEST": R$="YOU HAVE COME T
O A BEND IN THE PASSAGE."
3630 GOSUB 1590
3640 GOSUB 3500: IF C8<>1 THEN 36
30
3650 IF CD$="WEST" THEN 2460
3660 IF CD$="SOUT" THEN 3860
3670 IF CD$="NORT" OR CD$="EAST"
THEN PRINT "YOU CAN'T GO THAT DI
RECTION" ELSE 3700
3680 FOR X=1 TO 700: NEXT X
3690 GOTO 3630
3700 IF CD$="LOOK" THEN 3630
3710 PRINT "I DON'T UNDERSTAND "C
IS
3720 GOTO 3680
3730 REM **INTERSECTION 2**
3740 CR=0: R=0: R1$="PASSAGE": R2$=
"NORTH; WEST": R$="YOU ARE AT A BE
ND. THERE IS A NOISE TO THE NOR
TH."
3750 GOSUB 1590
3760 GOSUB 3500: IF C8<>1 THEN 37
50
3770 IF CD$="WEST" THEN 2270
3780 IF CD$="NORT" THEN 3860
3790 IF CD$="SOUT" OR CD$="EAST"
THEN PRINT "YOU CAN'T GO THAT DI
RECTION" ELSE 3820
3800 FOR X=1 TO 700: NEXT X
3810 GOTO 3750
3820 IF CD$="LOOK" THEN 3750
3830 PRINT "I DON'T UNDERSTAND "C
IS
3840 GOTO 3800
3850 REM **INTERSECTION 3**
3860 CR=0: R=0: R1$="PASSAGE": R2$=
"NORTH; SOUTH; EAST": R$="YOU ARE S
TANDING AT A ROCK 'T' INTERSECTI
ON."
3870 GOSUB 1590
3880 GOSUB 3500: IF C8<>1 THEN 38
70
3890 IF CD$="NORT" THEN 3620
3900 IF CD$="SOUT" THEN 3740
3910 IF CD$="EAST" THEN 2720
3920 IF CD$="WEST" THEN PRINT "YO
U CAN'T GO THAT DIRECTION." ELSE
3940
3930 FOR X=1 TO 700: NEXT X: GOTO 3
870
3940 IF CD$="LOOK" THEN 3870
3950 PRINT "I DON'T UNDERSTAND "C
IS
3960 GOTO 3930
3970 REM **INTERSECTION 4**
3980 CR=0: R=0: R1$="PASSAGE": R2$=
"NORTH; SOUTH; WEST": R$="YOU ARE I
N A DIMLY LIT INTERSECTI
ON ALONG THE PASSAGE."
3990 GOSUB 1590
4000 GOSUB 3500: IF C8<>1 THEN 44
0
4010 IF CD$="NORT" THEN 4100
4020 IF CD$="SOUT" THEN 2910
4030 IF CD$="WEST" THEN 2720
4040 IF CD$="EAST" THEN PRINT "YO
U CAN'T GO THAT DIRECTION." ELSE
4060
4050 FOR X=1 TO 700: NEXT X: GOTO 3
990
4060 IF CD$="LOOK" THEN 3990
4070 PRINT "I DON'T UNDERSTAND "C
IS
4080 GOTO 4050
4090 REM **INTERSECTION 5**
4100 CR=0: R=0: R1$="PASSAGE": R2$=
"SOUTH; EAST": R$="THE PASSAGE TUR
NS HERE. THE WALLS ARE VERY S
MOOTH."
4110 GOSUB 1590
4120 GOSUB 3500
4130 IF C8<>1 THEN 4110
4140 IF CD$="SOUT" THEN 3980
4150 IF CD$="EAST" THEN 3330
4160 IF CD$="NORT" OR CD$="WEST"
THEN PRINT "YOU CAN'T GO THAT DI
RECTION." ELSE 4180
4170 FOR X=1 TO 700: NEXT X: GOTO 4
110
4180 IF CD$="LOOK" THEN 4110
4190 PRINT "I DON'T UNDERSTAND "C
IS: GOTO 4170
4200 REM **DEATH ROUTINE**
4210 CLS: PRINT "353. YOU HAVE BEE
N KILLED IN YOUR QUEST. YOU HAV
E FAILED IN YOUR 'QUEST' FOR A
DVENTURE."
4220 FOR X=138 TO 148:
4230 PRINT X, "-": NEXT X
4240 FOR X=15 TO 335 STEP 32
4250 PRINT X, "!!": NEXT X
4260 OH=0: GOTO 4330

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4270 REM **VICTORY ROUTINE**
4280 CLS:FOR X=42 TO 52
4290 PRINTX,"-":NEXTX
4300 FOR X=15 TO 303 STEP 32
4310 PRINTX,"V";:NEXTX
4320 PRINT@321,"YOU HAVE SURVIVED THE DUNGEON AND KILLED THE MAGICIAN.YOU ARE VICTORIOUS IN YOUR 'QUEST'. you won...":LE=2
4330 PRINT@448," PLAY AGAIN (Y/N)":GOSUB1660
4340 IF I$="N" THEN END ELSE IF I$="Y" THEN 40 ELSE 4330
4350 PMODE 4,1:SCREEN 1,1:PCLS
4360 LINE(128,100)-(128,190),PSET:LINE(123,100),PSET
4370 LINE(133,100)-(128,190),PSET:LINE(100,100)-(156,100),PSET
4380 LINE(100,95)-(156,95),PSET
4390 FOR X=100 TO 159 STEP 7:CIRCLE(X,97),3:NEXTX
4400 LINE(123,95)-(124,54),PSET:LINE(133,95)-(132,54),PSET
4410 CIRCLE(128,54),4
4420 LINE(70,54)-(30,54),PSET:LINE(20,112),PSET
4430 LINE(30,190),PSET:LINE(70,54)-(80,112),PSET
4440 LINE(70,190),PSET:LINE(30,190),PSET
4450 LINE(50,64)-(50,180),PSET:LINE(30,100)-(70,100),PSET
4460 LINE(226,54)-(186,54),PSET:LINE(176,112),PSET
4470 LINE(186,190),PSET
4480 LINE(226,54)-(236,112),PSET:LINE(226,190),PSET
4490 LINE(186,190),PSET:LINE(206,64)-(206,180),PSET
4500 LINE(226,100)-(186,100),PSET
4510 LINE(20,5)-(50,45),PSET:LINE(55,49)-(45,40),PSET:LINE(65,5)-(65,45),PSET
4520 LINE(95,45),PSET:LINE(95,5),PSET
4530 LINE(140,5)-(110,5),PSET:LINE(110,45),PSET
4540 LINE(140,45),PSET:LINE(110,25)-(140,25),PSET
4550 LINE(185,5)-(155,5),PSET:LINE(185,25),PSET
4560 LINE(185,25),PSET:LINE(185,45),PSET
4570 LINE(155,45),PSET:LINE(200,5)-(230,5),PSET
4580 LINE(215,5)-(215,45),PSET
4590 IF CCC>0THENRETURN
4600 REM **DATA ARRAYS**
4610 DATA DAGGER,BATTLE AXE,MACE,CROSS BOW,SWORD
4620 DATA FIGHTER,ELF,DWARF,CLERIC
4630 DATA PLATE MAIL,CHAIN MAIL,LEATHER
4640 DATA GOUL,GHAST,SPIDER,BUG BEAR,KOBOLD,ORC,OGRE
4650 DATA 6,6,8,8,10,12
4660 FOR X=1 TO 5:READ W$(X):NEXTX
4670 FOR X=1 TO 4:READ C$(X):NEXTX

```

```

4680 FOR X=1 TO 3:READ A$(X):NEXTX
4690 FOR X=1 TO 6:READ M$(X):NEXTX
4700 FOR X=1 TO 6:READ M(X):NEXTX
4710 GOSUB1660
4720 REM **INSTRUCTION PAGES**
4730 Q$="--QUEST--":P$="PRESS <ENTER> TO CONTINUE"
4740 CLS:PRINT@43,Q$
4750 PRINT@110,"BY":PRINT@168,"andrew mcintock"
4760 PRINT@296,"26/4/85 - 10/5/86":PRINT@232,"REQUIRES 32K ECB."
4770 PRINT@320,L$:IF L<0 THEN L=2 ELSE INPUT"LEVEL (<1/2>):",LE
4780 IF LE<1 OR LE>2 THEN4770
4790 INPUT"INSTRUCTIONS <Y/N>:",I$
4800 IF I$="N" THEN GOTO4820 ELSE IF I$<>"Y" THEN 4790
4810 GOSUB 4830
4820 RETURN
4830 CLS:PRINT@11,Q$:PRINT@34,"WELCOME ADVENTURER, TO YOUR QUEST.YOUR QUEST FOR ADVENTURE, POWER,GOLD AND GLORY. YOU HAVE BEEN GIVEN A QUEST ON THE ISLAND OF A MIDNIGHT DEATH."
4840 PRINT" YOU MUST FIGHT MONSTERS,FIND MAGIC ITEMS AND DESTROY AN EVIL MAGICIAN,THE KING OF DARKNESS."
4850 PRINT:PRINT P$
4860 GOSUB1660
4870 CLS:PRINT@11,Q$:PRINT@34,"BEFORE YOU SET OUT ON YOUR QUEST YOU MUST FIRST BUY YOUR WEAPONS AND ARMOUR. YOU WILL BE GIVEN AN AMOUNT OF GOLD TO BUY THESE ITEMS, YOU CAN'T EXCEED THIS AMOUNT."
4880 PRINT" THE BETTER THE WEAPONS THE MORE DAMAGE THEY WILL DO .THE BETTER THE ARMOUR THE LESS DAMAGE YOU WILL TAKE."
4890 PRINT:PRINT P$
4900 GOSUB1660
4910 CLS:PRINT @11,Q$
4920 PRINT@34,"THE COMPUTER WILL ALSO GIVE YOU OTHER PIECES OF INFORMATION. YOU WILL BE GIVEN YOUR STRENGTH, INTELLIGENCE, DEXTERITY AND CLASS.THESE WILL ALL AFFECT YOUR ABILITIES (SEE TABLES)."
4930 PRINT:PRINT P$
4940 GOSUB1660
4950 CLS:PRINT@11,Q$:PRINT@34,"YOU WILL ALSO BE GIVEN HIT POINTS (H.P) AND AN ARMOUR CLASS (A.C).THE MORE HIT POINTS YOU HAVE THE BETTER.YOU LOSE HIT POINTS IN COMBAT AND WHEN YOU GET HURT. WHEN YOUR HIT POINTS ARE AT ZERO YOU ARE DEAD!!."
4960 PRINT:PRINT P$
4970 GOSUB1660
4980 CLS:PRINT@11,Q$
4990 PRINT@34,"ARMOUR CLASS IS THE STRENGTH OF YOUR ARMOUR.THE

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LOWER YOUR ARMOUR CLASS THE BETTER.THE DAMAGE OF A WEAPON IS SHOWN IN HIT POINTS(SEE TABLES).WHEN IN COMBAT THE COMPUTER WILL ASK FOR A NUMBER.THIS IS THE WEAPON I.D NUMBER."
5000 PRINT:PRINT P$
5010 GOSUB1660
5020 CLS:PRINT@11,Q$:PRINT@34,"MONSTERS ALSO HAVE HIT POINTS (SEE TABLES).THE HIGHER THE HIT POINTS THE HARDER THE MONSTER IS TO KILL."
5030 PRINT"THE COMPUTER WILL ALSO ASK YOU FOR A LEVEL. IN LEVEL ONE YOUR HIT POINTS ARE RESTORED AFTER COMBAT, WITH LEVEL TWO THEY'RE NOT."
5040 PRINT:PRINT P$
5050 GOSUB1660
5060 CLS:PRINT@11,Q$
5070 PRINT@34,"WHEN THE GAME STARTS YOU WILL FIND YOURSELF AT THE ENTRANCE OF THE DUNGEON.YOU MUST FIGHT THE MONSTERS,FIND MAGIC ITEMS AND DESTROY THE MAGICIAN."
5080 PRINT" IF YOU KILL THE MAGICIAN THEN YOU WILL ACQUIRE MORE HIT POINTS BUT YOU WILL HAVE TO PLAY ON LEVEL TWO.THERE IS ALSO A OPTION OF A MAP TO HELP YOU FIND YOUR WAY."
5090 PRINT"GOOD LUCK!!"
5100 PRINT:PRINT P$
5110 GOSUB1660
5120 CLS:PRINT@11,Q$:PRINT
5130 PRINT"CLASS:":PRINT@80,"HIT POINTS:":K7=82
5140 FOR X=1TO4:IF X=1 THEN K6=12 ELSE IF X=2 OR X=3 THEN K6=8 ELSE IF X=4 THEN K6=6
5150 K7=K7+32:PRINTC$(X):PRINT@X7,"4 -"K6:NEXTX
5160 PRINT:PRINT"ARMOUR:":PRINT@270,"A.C:":PRINT@277,"COST:"
5170 K6=20:K7=270:K8=277
5180 FOR X=1TO3:K7=K7+32:K8=K8+32
5190 PRINT A$(X):PRINT@K7,X+3:PRINT@K8,K6
5200 K6=K6+20:NEXTX:PRINT
5210 PRINT P$
5220 GOSUB1660
5230 CLS:PRINT@11,Q$:PRINT
5240 PRINT"ADJUSTMENTS:":PRINT"STRENGTH- <6 -1H.P"
5250 PRINT@138,"=6 NO CHANGE":PRINT@170,">6 +1H.P"
5260 PRINT"INTELLIGENCE- <6 -1 TO HIT":PRINT@238,"=6 NO CHANGE":PRINT@270,">6 +1 TO HIT"
5270 PRINT"DEXTERITY- <6 -1 TO A.C":PRINT@331,"=6 NO CHANGE":PRINT@363,">6 +1 TO A.C"
5280 PRINT:PRINT P$
5290 GOSUB1660
5300 CLS:PRINT@11,Q$
5310 PRINT"WEAPON:":PRINT@43,"COST:":PRINT@50,"DAMAGE:":PRINT@59,"I.D:"

```

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# RAMBO

16K ECB

GRAPHICS by Dennis Mellican

**R**AMBO IS A graphics display (which I hope can be entered into the next "Quick on the Draw Competition".

This was created by the use of "Zoomer", believe it or else!

The BASIC program came from "Maxcomp" (which appeared in Australian Rainbow, Oct, 1986).

P.S. if you don't like Rambo's face, re-arrange it with "Zoomer".

## The Listing:

```

1 .....
2 '      RAMBO
3 ' BY DENNIS MELLICAN
4 ' PICTURE COMPRESSED
5 ' BY MAXCOMP (AUST.
6 ' RAINBOW, OCT., 1985)
7 ' BY ART FLEXSER AND
8 ' MIKE WARD.
9 .....
10 CLS: CLEAR 200, &H7F00: GOTO 33
11 PRINT: PRINT "HIT 'S' TO SAVE P
12 ICTURE AS A": PRINT "BINARY FILE"
13 S=6: E=&H1D: IF PEEK(&HC000)=&H
14 THEN D=1: S=S+8: E=E+8
15 POKE &H7FFC, S: POKE &H7FFD, 0: POK
16 E &H7FFE, E: POKE &H7FFF, &HFF
17 FOR I=&H7F00 TO &H7FB7: READ H$:
18 POKE I, VAL("&H"+H$): NEXT
19 DATA EC, 8D, 0, FA, 83, 0, 1F, ED, 8D
20 , 0, AF, A3, 8D, 0, ED, 43, 50, 5C
21 DATA ED, 8D, 0, 8E, 1A, 50, 7F, FF, D
22 F, 9E, 33, 30, 6, 10, 8E, 80, 0, 86
23 DATA 8, A7, 8C, 3A, 86, 6, A7, 8C, 34
24 , A6, 80, 80, 30, 48, 48, 59, 6A
25 DATA 8C, 29, 27, E, 6A, 8C, 25, 26, F
26 , E7, A0, C6, 8, E7, 8C, 1C, 20, EE
27 DATA 86, 6, A7, 8C, 14, A6, 80, 26, A
28 , A6, 4, 81, 22, 20, C, 30, 5, A6
29 DATA 80, 80, 30, 48, 48, 20, D9, 0, 0
30 , 8E, 80, 0, 10, AE, 8D, 0, 91, A6
31 DATA 80, A7, 8C, 48, 6F, 8C, 46, A6,
32 , 80, A1, 8C, 40, 25, F, E6, 80, A6, 80, A7
33 DATA A4, 8D, 15, 8D, 23, 5A, 26, F7,
34 , 20, 4, A7, A4, 8D, A, 8D, 18, 27, E, 2, 7F
35 DATA FF, DE, 1C, AF, 39, 10, AC, 8D,
36 , 0, 1E, 24, 4, 31, A8, 20, 39, 31, A9, E8
37 DATA 21, 39, 6D, 8C, F, 26, B, 10, AC
38 , 8C, 4E, 26, 3, 6C, 8C, 4, 1A, 4, 39
39 PHODEA: PCLS1: SCREEN 1, 1: READZ:
40 EXEC &H7F00: CLS
41 P=PEEK(&H155): IF P<>251 THEN
42 26
43 IFD THEN PRINT @64, " (DEFAULT E
44 XTENSION IS /MAX)": PRINT @, ""
45 LINE INPUT "FILENAME FOR PICTUR
46 E: "; F$: IF F$="" THEN 27
47 P=INSTR(F$, "."): IF P>2 THEN F$
48 =MID$(F$, P+1)+": "+LEFT$(F$, P-1)
49 IFD AND INSTR(F$, "/")=0 AND I

```



```

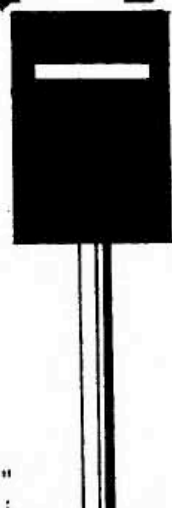
NSTR(F$, ".")=0 THEN F$=F$+"/MAX"
31 IFD THEN SAVEN F$, &HE00, 256*(
E+1)-1, &HA027: END
32 CSAVEN F$, &H600, 256*(E+1)-1, &
HA027: END
33 PCLEAR 4: GOTO 11
34 DATA 1
35 "1;ooo;ooo8>ookno 85o?knlZgo
n 30<67Selo?o84OomoOglo313Po?:
36 "Xol40000ho koookoCkG: 1086oo
00?: Noo89o gmOCdMOMF)EEfno hbgJ
37 "mL N77S 10?o::ookno? kmoO km
oOlPBolPlolQKo ao; 40kbPOono?San
38 "?kmoO gkmnoOgob; olo3n? 1V oo
fcKijlL?l looknlPGooQShn?30oOk1
39 "n?chl?b2onnh?89'83'n?S'n?kb
loomNS?l10cb4?ono gmoOVg109Eook
40 "no chn?3Q11iooonN?0@83b1@2
0'83b3@h'>3F'<3b183b2P010'L77a
41 "1100001=Cfcoooggn EJ(EJSf?10
kb1Oono k11HemKMbHNG=VO>3b< ono
42 "oono cb103b1N30h3b1L201PCOl
PBolPLO@020P000P8030088007b3P<1
43 "00021Q008731o gknoLR1PH0'<3P
1?kooomo gcooaolh<@A1PH0X=3PL>S
44 "0X0000?8HooKnookno?S'h>34'81
Oh<20P78900411PD0008?02XD2003S1
45 "moOgomNRUB: 7mo?anK1fk 1'10?o
8Aof1: UE:=D1E2PD10'411PH00'<3P
46 "h'o 800P020@810P000<3nookbl
mo3'7b403b6?o7'L000010P8201Q80
47 "Of5nooSfooooo oooo11OG'g9c'0
7el?1'L30@02?oooginO711o a10 dn
48 "ER G7?o8=oo okoo oofmZUFXEJX
GleenoOkmo goonM?7gmo?o85ooSQRQ
49 "D:=J1G;eDZGBXQ0H10Z Gb2?mn1P
101QWooQ'<0008G0?o179hL Wb'G;alo
50 "l'le?WooL8oH;oono85ocm@Em?1
KbngWk11?gnookH893Xm>Sdm?311>S'
51 "h'c'j=3@h42PD: QEZeL F GPe42Z
EJYEto8>o'0ReFf MOo84okmo eL2106
52 "3Gkob1OoneRwb3'3b?71ocgLK307
b4P3moV201<1SKclo?al?Af?ho917P@
53 "OnOn o oono>0: E: Q4ZUBXDJDYD'8
1QVR1GdnSLjmrXP3mo gnoGonoGblol
54 "PaoEj1Ej FYMK1ORT4BZE: Un Gb3
?10: UF'go84ooojmlnoN?3h1PG'h=BX
55 "T4RD0 8'0?8QogloOonoGglo; 1?
1'<300860?85h=2Pd: Sej?2XD: 1EZ'3
56 "0': 1ob8d; 20000@: 10XD21@U2PT
YF; ooo1RL?1?Ogob4Omo1a>UoXWFoo
57 "FZE: YEZU68eokooom11D'eeoh0ZU
FXOo84ochE2QDR108L0?8aoglo?al07
58 "o863a101PH?7a101PDooOooO'11X
=GjmmgooomoSn: n?SmjPP3XOc11Q; o
59 "o oZDBYAR1Qh'52XD: QOX1E85: RD
j=Shn?P00: YEh koo klnOE: eOb200
60 "H'73P1Q401U?o?en?XEBZmOkooP0
Sokh=DjgloomolPwooO(abYGe'JGJX5
61 "X@ZXF1QD00J1DX5OPTDN7AJ0@@:
3b10011PX08?8=0?9Hcam7Xd49H: Zeo
62 "?goEjWno ooo 851>2XE80DX52PD
0020@5D20@81?8<00410'<71'1?gmob
63 "1020o?n01PH0OkmoOg101'>b4'3b
GOmo?dngEo il?=F1P\0P43PD000081

```

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# MAILING LABELS



BUSINESS

any CoCo

by Jason Zaal

**T**HIS PROGRAM DOES not save names or addresses, "so what does it do?", you might ask.

Well it just prints address stickers. When you first run the program, it asks you for:

- 1: Name
- 2: Address
- 3: Town
- 4: Postcode

Then it prints the label on the screen and asks you if it is correct. If it is, it sends it to the printer. Then it asks you if you want to:

- \* Print Again
- \* New Label
- \* Quit

And that's it!

## The Listing:

```
0 GOTO10
1 '***** MAILING LABELS ***
  ***** JASON ZAAL *****
3 SAVE"239:3":END'3
10 'MAIN SCREEN
20 CLS3:POKE359,57:SCREEN 0,1
30 POKE 25495,1
40 PRINT@256,CHR$(128);:PRINT@22
4,CHR$(128);:PRINT@192,CHR$(128)
;:PRINT@160,CHR$(128);:PRINT@128
,CHR$(128);:PRINT@96,CHR$(128);:
PRINT@64,CHR$(128)
50 PRINT@228,CHR$(128);
60 PRINT@320,CHR$(128);:PRINT@35
2,CHR$(128);:PRINT@384,CHR$(128)
;:PRINT@416,CHR$(128);:PRINT@448
,CHR$(128);:PRINT@480,CHR$(128);
```

```
70 FORT=18TO29:SET(3,T,1):NEXT
80 PRINT@95,CHR$(128);:PRINT@127
,CHR$(128);:PRINT@159,CHR$(128);
:PRINT@191,CHR$(128);:PRINT@223,
CHR$(128);:PRINT@255,CHR$(128);
90 FORT=3TO59:SET(T,30,1):NEXT
110 FORT=17TO30:SET(61,T,1):NEXT
120 PRINT@286,"by";
130 PRINT@318,CHR$(128);:PRINTCH
R$(128);
160 PRINT@414,"z"+CHR$(128);
170 PRINT@446,"a"+CHR$(128);
180 PRINT@478,"a"+CHR$(128);
190 PRINT@510,"l"+CHR$(128);
200 PRINT@0,CHR$(128);+CHR$(128)
;+CHR$(128);+CHR$(128);+CHR$(12
8);+CHR$(128);+"mailing";+CHR$(12
8);+"label";+CHR$(128);+"program
";+CHR$(128);+CHR$(128);+CHR$(12
8);+CHR$(128);+CHR$(128);
210 PRINT@481,CHR$(128);+CHR$(12
8);+"copyright";+CHR$(128);+CHR$(
123);+CHR$(99);+CHR$(125);+CHR$(
128);+"zaal"+CHR$(128);+"softwa
re";+CHR$(128);
220 PRINT@65,"NAME ";
230 PRINT@97,"ADDRESS:";
240 PRINT@129,"TOWN ";
250 PRINT@161,"P.C. ";
260 PRINT@480,CHR$(128);
270 PRINT@74,"";:INPUTN$
280 PRINT@95,CHR$(128);
290 PRINT@106,"";:INPUT A$
300 PRINT@127,CHR$(128);
310 PRINT@138,"";:INPUTT$
320 PRINT@159,CHR$(128);
330 PRINT@170,"";:INPUTPC$
340 PRINT@191,CHR$(128)
350 PRINT@1264,"IS THIS CORRECT?
";
360 PRINT@326,N$;
370 PRINT@358,A$;
380 PRINT@390,T$ " ";PC$;
390 PRINT@412,P$;
400 YN$=INKEY$:IF YN$=""THEN400
410 IF YN$="Y"THEN 430
420 IF YN$="N"THEN20
```

```
430
440 PRINT@481,"
";
450 SOUND197,4:PRINT@488,"ready
printer";
460 SOUND179,4:PRINT@488,"READY
PRINTER";
470 PRINT@488,"ready printer";
480 SOUND197,4:PRINT@488,"READY
PRINTER";:SOUND179,4:PRINT@484,"
PRESS <enter> WHEN READY";:SOUND
179,4
490 EXEC44539
500 'PRINTING SCREEN
510 CLS3
520 '
530 PRINT@96,"NOW PRINTING YOUR
ADDRESS LABEL.";
540 PRINT@128,"=====
=====
=====";
550 PRINT@64,"=====
=====
=====";
560 PRINT@200,N$;
570 PRINT@264,A$;
580 PRINT@328,T$ " "+PC$;
590 PRINT@392,P$;
600 FORT=1TO62:SET(T,29,1):NEXT
610 PRINT#-2,N$
620 PRINT#-2,A$
630 PRINT#-2,T$ " "+PC$
640 PRINT#-2,""
650 PRINT#-2,""
660 PRINT#-2,""
670 'NEW PRINT QUIT
680 ' RETURN SCREEN
690 PRINT@483,"NEW LABEL: PRINT
AGAIN: QUIT
700 NP$=INKEY$:IF NP$="" THEN 70
0
710 IF NP$="N"THEN 20
720 IF NP$="P"THEN 510
730 IF NP$="Q"THEN 750
740 GOTO700
750 CLS:Z$=" ** ** ** QUIT *
* ** * "
760 FOR A=1 TO 100:PRINTZ$:NEXTA
770 POKE 113,0:EXEC40999
```



# CREATING VIDEO TITLES ON MC-10

by John Kellett

It has proved to be much easier than I expected to set up titles on the MC10. What I needed to do was to set up words on the screen and record them at various places throughout a video recording. I wanted the words to scroll up the screen and the time each line stays on the screen is critical. I believe it should be just long enough for a fast reader to read it twice. I do not think the background colour needs to change. In fact it could be an advantage to have a consistent colour appearing during the video. First, let me explain how to connect your MC10 to the video recorder. Take the lead marked "To T.V." on the back of the MC10 and put it in the "Video In" socket at the back of the video recorder. Switch on both the computer and the video recorder. Then retune one of the spare channels on the video recorder so that the computer's screen display now appears on the T.V. via the video recorder. When you have the picture on the screen, using the program below, or any program which displays something worth recording, just press the record button as you would when recording from the T.V. Now to set up the words on the words on the screen, this small program lets you time the titles and the individual lines of each title by pressing any key to bring up the next line. A line which consists of just the No.1 causes the screen to clear and the next title to start four lines down from the top. The POKE at line 10 gives extra clarity to the letters - on my T.V. anyway.

```

10 POKE 32768,64
20 CLS 3
30 IF INKEY$="" THEN 30
40 PRINT @ 129
50 READ A$
60 IF A$ ="1" THEN 20
70 PRINT A$
80 IF INKEY$ = "" THEN 80
90 GOTO 50
100 DATA "WARNING INTERNATIONAL"
110 DATA "AGREEMENTS AND LAWS"
120 DATA "PROTECT COPYRIGHTS"
130 DATA "UNAUTHORISED COPYING"
140 DATA "SHOWING OR SELLING"
150 DATA "OF COVERED TAPES"
160 DATA "CAN RESULT IN CIVIL"
170 DATA "PENALTIES"
180 DATA "UNDER THE LAW"
190 DATA 1,"OUR WORLD TOUR"

```

Note that the 1 in the last line will trigger line 60 to transfer control to line 20 so that the copyright warning is cleared off the screen before the title is displayed. While you are recording you can pace the titles by reading them on the screen yourself and then pressing any key to go on to the next line. I had some music as background so I synchronised the scrolling of the titles with the sound. To get fancier titles you can set up borders and patterns by using a more complicated program than the one above. I suggest a standard frame around the title could be called up whenever the code 2 is recognised in the data statements. Full animation of the titles needs a different approach. Minor changes to the picture can be saved in memory and replayed while the video recorder is recording. Finally, remember that video tape recorders erase the tape ahead of the recording by a few inches, so you need to place these titles on the tape in sequence before recording the segments they refer to or else there will be blank areas on the tape.

## RAMBO

from page 41

```

64 "YaaaOcl210X40PD:1004063`1?S
nlPOolPHOn?8600SlnO ck`k`bL000
65 "80?9Uogmo?coOKcLK6`d=1PH61`
<30`L73P`8P<3P0:10252XE:X0:43b1
66 "P2Ph?3hn?S1000P1PF0G`00hn300
3UmN`Og6`1f60L11P`01W?oOkno gmo
67 " mo MoLk6`E7AdN3Ph71`Ob20<1
00000?ob203P0BYDZeM`1N?WmgO gco
68 "oomolF\olXOcOgmo koOgno ko8
5mg1kno12000000000?KqkmoO?o: oo
69 "ciP040B13hE1420H3ho?:`og7ooo
1eZUNooomEP1Cb103bf olRoak\08101
70 ">Oc0H7b103bf olG8g`OO`L11<Woo
ojX00003o: aognOhoaalE;UaibP0Fab
71 "1o10hb`8o400 o:kagobooobf ol0
98 END
99 SAVE"261F:3":END'6

```

## QUEST

from page 40

```

5320 PRINT W$(1):PRINT@76,"5":PR
INT@84,"0-4":PRINT@92,"1"
5330 PRINT W$(2):PRINT@108,"10":
PRINT@116,"0-6":PRINT@124,"2"
5340 PRINT W$(3):PRINT@140,"10":
PRINT@148,"0-6":PRINT@156,"3"
5350 PRINT W$(4):PRINT@172,"20":
PRINT@180,"0-8":PRINT@188,"4"
5360 PRINT W$(5):PRINT@204,"15":
PRINT@212,"0-8":PRINT@220,"5"
5370 PRINT:PRINT"MONSTERS":PRIN
T@270,"HIT POINTS":K7=306
5380 FOR X=1 TO 5:PRINT M$(X):PR
INT@K7,M(X):K7=K7+32
5390 NEXTX
5400 PRINTM$(6):PRINT@467,"12"
5410 GOSUB1660
5420 CLS:PRINT@11,Q$
5430 PRINT@128,"TO SEE THESE TAB
LES AT ANY TIME":PRINT@170,"TYPE
'TABLES'"
5440 GOSUB1660
5450 RETURN

```



# DRAGON

by Chris Deacon

**D**RAGON WAS ORIGINALLY a 128 X 48 resolution picture so I have divided all the numbers x two. Now everyone can have a dragon. The two screen dumps are for the DMP 105 printer. The first will print out a very big dragon. The second will print out a very small dragon and will take a few minutes to print out. This is because it puts the printer into graphics mode and it is dot addressing or, put simply, for every pixel on the printer prints one dot and this takes a lot of calculation. Maybe one day you will develop your own picture which you can use as a letterhead. If this program is too slow for what you want then change line 6070 to 6070 LPRINT. Delete line 6090. Change line 6140 to 6140 LPRINT N-128;: NEXT: LPRINT: LPRINT: LPRINT: LPRINT CHR\$(30): RETURN.

This will take a few minutes to print out the numbers which will be used as data for the program on pages 37 and 38 in the 105 operation manual. Now read the info on freehand drawing. Once you understand the program you fit the data with the program. When you are finished you can print out your picture in five seconds. It is well worth the effort. Both screen dumps have been written to work with Mike Turk's part of the program. The one change I made to Mike's program is to add P=1 at the end of line 5130 and P=0 to line 5140 and is necessary to make both screen dumps work.

## The Listing DRAGON:

```
0 REM DRAGON FROM THE BOOK
TRS-80 GRAPHICS FOR THE MODEL 1
AND MODEL 11 BY DAVID A KATER
& SUSAN J THOMAS
1 REM -----
10 CLS:Y=2:POKE49151,68:S=1
20 READX1:IFX1=-1THENY=Y+1:GOTO20
25 IF X1=-2 THEN 40
30 READX2:FORX=X1TOX2:C=2:GOSUB5
000:NEXTX:GOTO20
40 A$=INKEY$:IF A$="" THEN 40
50 IF A$="1" THEN GOSUB 6000
60 IF A$="2" THEN GOSUB 6070
70 IF A$="T" THEN GOSUB 10000
80 GOTO 40
110 DATA 31,33,-1
120 DATA 30,32,-1
130 DATA 28,33,-1
140 DATA 27,27,29,30,32,34,-1
150 DATA 11,15,27,27,29,30,32,34,-1
160 DATA 10,16,23,33,42,43,-1
170 DATA 8,16,22,34,41,45,-1
180 DATA 5,17,30,35,40,50,-1
190 DATA 1,18,25,34,40,58,-1
200 DATA 4,19,20,34,39,63,-1
210 DATA 6,19,28,35,39,60,-1
220 DATA 7,20,27,34,38,58,-1
230 DATA 7,21,27,33,37,56,-1
240 DATA 6,21,26,33,36,55,-1
250 DATA 5,22,26,32,34,56,-1
260 DATA 1,62,-1
270 DATA 6,57,-1
280 DATA 7,22,24,32,34,56,-1
290 DATA 7,21,23,32,34,54,-1
300 DATA 7,20,22,33,35,55,-1
310 DATA 6,19,22,34,36,59,-1
320 DATA 3,19,21,33,37,53,-1
330 DATA 8,18,21,33,38,50,-1
340 DATA 11,18,21,36,39,49,-1
350 DATA 11,18,20,36,40,51,-1
360 DATA 10,18,20,36,41,54,-1
370 DATA 7,17,20,39,42,50,-1
380 DATA 12,17,20,39,43,49,59,60,-1
390 DATA 15,17,20,42,45,47,59,62,-1
400 DATA 16,17,20,42,46,48,56,63,-1
410 DATA 16,17,20,43,47,50,56,60,-1
420 DATA 16,16,20,46,56,59,-1
430 DATA 20,46,55,59,-1
440 DATA 18,46,55,58,-1
450 DATA 17,46,55,58,-1
460 DATA 16,37,41,49,52,58,-1
470 DATA 16,18,27,36,44,49,52,57,-1
```

```
480 DATA 16,18,30,34,45,50,52,57,-1
490 DATA 16,18,31,33,46,56,-1
500 DATA 16,17,31,34,47,55,-1
510 DATA 15,17,32,36,48,54,-1
520 DATA 11,20,27,39,49,53,-1
530 DATA 9,11,14,16,19,22,26,27,31,34,38,39,-1
540 DATA 12,15,29,32,-1
550 DATA 11,12,29,30,-2
4999 REM*****
5000 REM BY MIKE TURK
5005 IFC>20RC<1THENC=1
5010 SS=16384:XT=INT(X/2):YT=INT(Y/3):L=SS+XT+32*YT:T=PEEK(L)
5020 IFX=2*XTTHENIFY=3*YTTHENM=32:GOTO5100
5030 IFX=2*XTTHENIFY=3*YT+1THENM=8:GOTO5100
5040 IFX=2*XTTHENM=2:GOTO5100
5050 IFY=3*YTTHENM=16:GOTO5100
5060 IFY=3*YT+1THENM=4:GOTO5100
5070 M=1
5100 C=64*(C-1)
5110 IFS=1THENI=((MORT)AND191)+C:POKEI,T:RETURN
5120 IFS=-1THENPOKEI,(255-M)ANDT:RETURN
5130 S=MORT:IFS=1THENI=INT((S-128)/64)+1:P=1:RETURN
5140 S=0:P=0:RETURN
5150 REM*****
6000 REM SCREEN DUMP 1 BY
CHRIS DEACON
6005 LPRINTCHR$(27);CHR$(28)
6010 FORY=0TO47:LPRINTTAB(9);:FORX=0TO63:S=0:GOSUB5000
6020 IF P=1 THENLPRINTCHR$(239);:GOTO6040
6030 LPRINT" ";
6040 NEXTX:LPRINT:NEXTY:LPRINTCHR$(27);CHR$(54):RETURN
6050 REM*****
6060 REM SCREEN DUMP 2 BY
CHRIS DEACON
6070 LPRINTCHR$(18)
6080 R=1:FORK=0TO47STEP7
6090 LPRINTCHR$(27);CHR$(16);CHR$(0);CHR$(208);
6100 FORX=0TO63:FORI=1TO7:Y=K+I
6110 IF Y>47 THEN 6130
6120 S=0:GOSUB5000:R=R+1*R:T=INT(R/2):D=D-T*(P=1)
6130 NEXT I:R=1:N=D+128:D=0
6140 LPRINTCHR$(N);:NEXT LPRINT:
NEXT LPRINTCHR$(30):RETURN
6150 REM*****
10000 REM PUT YOUR SCREEN
SAVE PROGRAM HERE
```



# FLUKEY FORTUNE



## The Listing FLUKEY:

```

1 REM #####
2 REM ## FLUKEY FORTUNE ##
3 REM ## COMPOSED BY... ##
4 REM ## DAVID J. HILL ##
5 REM ## AGE: 15 ##
6 REM ## NOVEMBER/1986. ##
7 REM #####
8 CLS:PRINT"#####FLUKEY$FORTU
NE#####":PRINT"$$$THE AIM O
F THIS GAME IS TO$$$":PRINT"$$$S
TRY ALIVE AS LONG AS YOU $$$"
9 PRINT"$$$CAN BY PICKING A NUMB
ER $$$":PRINT"$$$BETWEEN 1 AND
12 TO PICK $$$":PRINT"$$$UP (H
OPEFULLY) YOUR$$$"
10 PRINT384,"HIT ANY KEY TO CON
TINUE.....":A$ = INKEY$:IF A$
= "" THEN10
11 CLS
12 PRINT"$$$ FORTUNE-AND THEN YO
U MUST$$$":PRINT"$$$TRY AND GUES
S THE NUMBER $$$":PRINT"$$$THAT
MICO IS THINKING.YOU $$$"
13 PRINT"$$$HAVE A 50/50 CHANCE-
IT IS-$$$":PRINT"#####1
OR 2#####"
14 PRINT448,"WE AWAIT YOUR SIGN
AL.....":A$ = INKEY$:IF A$
= "" THEN 14
18 SC=0:T=5
19 CLS
20 INPUT "WHAT IS YOUR NAME";NAM
E$
22 CLS
23 FORR=0T063:SET(R,24,8):NEXT R:
SOUND200,3
24 PRINT425,"SCORE OF ";NAME$
25 PRINT459,"":SC
26 N=RND(10000):O=RND(10000):P=R
ND(10000):Q=RND(10000):Z=RND(100
00):S=RND(10000):T=RND(10000):U=
RND(10000):V=RND(10000)
27 W=RND(10000):X=RND(10000):Y=R
ND(10000)
32 FORR=0T063:SET(R,4,8):NEXT R:S
OUND200,3
34 GOSUB990
35 GOSUB2000:GOTO25
990 PRINT66,"PICK A NUMBER (1-12
)"
991 INPUTNUM$
994 PRINT128,"1-";N
995 PRINT192,"2-";O
996 PRINT256,"3-";P
997 PRINT320,"4-";Q
998 PRINT438,"5-";Z
999 PRINT202,"6-";S
1000 PRINT266,"7-";T
1001 PRINT330,"8-";U
1002 PRINT148,"9-";V
1003 PRINT212,"10-";W
1004 PRINT276,"11-";X
1005 PRINT340,"12-";Y
1008 IFNUM$="1"THENSC=SC+H:RETUR
N
1009 IFNUM$="2"THENSC=SC+O:RETUR
N
1010 IFNUM$="3"THENSC=SC+P:RETUR
N
1012 IFNUM$="4"THENSC=SC+Q:RETUR
N
1013 IFNUM$="5"THENSC=SC+Z:RETUR
N
1014 IFNUM$="6"THENSC=SC+S:RETUR
N
1015 IFNUM$="7"THENSC=SC+T:RETUR
N
1016 IFNUM$="8"THENSC=SC+U:RETUR
N
1017 IFNUM$="9"THENSC=SC+V:RETUR
N
1018 IFNUM$="10"THENSC=SC+W:RETU
RN
1019 IFNUM$="11"THENSC=SC+X:RETU
RN
1020 IFNUM$="12"THENSC=SC+Y:RETU
RN
2000 FORR=0T02:SOUND100,5:SOUND1
00,5:SOUND150,5:SOUND130,5:NEXT R
:PRINT128
2001 PRINT192
2002 PRINT256
2003 PRINT320
2004 PRINT290,"THINK WISELY ABO
UT THIS..."
2005 INPUT"DO YOU WANT HEADS-1 O
R TAILS-2";LUCK
2006 X=RND(2):IFX<>LUCKTHEN3000
2007 PRINT288
2008 PRINT320
2009 PRINT352
2010 PRINT295,"LUCKY";NAME$:SOU
ND200,10:PRINT295
2011 RETURN
3000 CLS0:PRINT295,"YOU LOSE ";
NAME$:PRINT359,"YOU SCORED:";SC
:INPUT"ANOTHER GAME (Y/N)";A$
3001 IF A$ = "Y" THENRUN18
3002 IF A$ = "N" THEN CLS0:FORI=
16384T016895:POKE1,32:NEXT I
3003 PRINT269,"the end";GOTO30
03

```

by David Hill

**T**HIS IS A great game to frustrate game players. All instructions are included in the listing. (A sort of double headed game in which you have to guess for the highest number and then prove if you are right or wrong. Hope you enjoy it. J.)



# MATHS HELPER



by David Hill

This is a utility program. It can help the High School student with his homework or just plain help anyone at home. It has four useful functions - square root and the three trig functions. The easy instructions are included in the listing.

The Listing MATHHELP:

```
1 REM *****
2 REM **MATHEMATICS HELP**
3 REM ** COMPOSED BY- **
4 REM ** DAVID J. HILL **
5 REM ** NOVEMBER//1986 **
6 REM *****
10 CLS
12 INPUT"DO YOU WANT 1) SQUARE R
OOT.....2) SINE.....3) COSINE..
.....4) TANGENT";Q
13 IFQ=1THEN20
14 IFQ=2THEN40
15 IFQ=3THEN60
16 IFQ=4THEN70
20 CLS
22 INPUT"WHAT IS THE NUMBER YOU
WISH TO HAVE SQUARE ROOTED";N
24 PRINT:PRINT
26 PRINT SQR(N)
27 GOTO100
40 CLS
41 INPUT"WHAT IS ANGLE A (AA)";A
A:IFAA<0ORAA>180THEN50
42 INPUT"WHAT IS ANGLE B (AB)";A
B:IFAB<0ORAB>180THEN50
43 INPUT"WHAT IS SIDE C (SC)";SC
:IFSC<0THEN50
44 AC=180-(AA+AB)
45 IF(AA+AB+AC)<180THEN50
46 AA=AA/57.29577951:AB=AB/57.29
577951:AC=AC/57.29577951
47 SA=(SIN(AA))/(SIN(AC))*SC:I
FSA<0THEN50
48 SB=(SIN(AB))/(SIN(AC))*SC:I
FSC<0THEN50
49 CLS:PRINT"SIDE A (SA) IS" SA
"LONG":PRINT"SIDE B (SB) IS" SB
"LONG":PRINT:GOTO100
50 CLS:PRINT"SORRY,NOT A TRIANGL
E.TRY AGAIN":GOTO40
60 CLS
61 INPUT"WHAT IS ANGLE C (AC)";A
C:IFAC<0ORAC>180THEN67
62 AC=AC/57.29577951
63 INPUT"WHAT IS SIDE A (SA)";SA
:IFSA<0THEN67
64 INPUT"WHAT IS SIDE B (SB)";SB
```

```
:IFSB<0THEN67
65 SC=((SA^2)+(SB^2))-.2*(SA*SB*
COS(AC)):IFSC<0THEN67
66 CLS:PRINT"SIDE C (SC) IS" SQR
(SC)"LONG":PRINT:GOTO100
67 CLS:PRINT"SORRY,NOT A TRIANGL
E.TRY AGAIN":GOTO60
70 CLS
71 INPUT"WHAT IS SIDE B (SB)";SB
:IFSB<0THEN76
72 INPUT"WHAT IS ANGLE A (AA)";A
```

```
A:IFAA>180THEN76
73 AA=AA/57.29577951
74 SC=SB*(TAN(AA)):IFSC<0THEN76
75 CLS:PRINT"SIDE C (SC) IS" SC
"LONG":GOTO100
76 CLS:PRINT"SORRY,NOT A TRIANGL
E.TRY AGAIN":GOTO70
100 INPUT"DO YOU WISH TO QUIT";A
$
101 IF A$="Y"THENCLS:END
102 IFA$<>"Y"THENRUN
```

# HISSET GRID

by Chris Deacon

A 128 X 64 SET GRID for the DMP 105 printer. This is not suitable for TP10 thermal printer. I tried it out and all I got out of it seemed to be a lot of random numbers but it was worth a try because stranger things have happened. I would like to know if this grid will print out on a DMP 110 or any other printer.

The Listing HSETGRID:

```
0 REM 128X64 SET GRID
FOR THE 105 PRINTER
BY CHRIS DEACON.
3 REM THIS PROGRAM MIXES BOTH
NORMAL MODE AND GRAPHICS MODE
AND TAKES TIME TO PRINT OUT THE
GRID ON THE PRINTER
4 REM THE BEST IDEA IS TO RUN OF
ONE COPY THEN IF YOU CAN FIND A
COPYING MACHINE THEN RUN OF SOME
COPY'S
5 REM BUT IT IS AN IDEA I HAVE
NOT TRIED
20 LPRINTCHR$(27);CHR$(56)
25 LPRINTCHR$(27);CHR$(20)
30 LPRINTTAB(3);
40 FORI=0TO127:IFI<100THENLPRINT
"0":GOTO50
45 LPRINTMID$(STR$(1),2,1);
50 NEXT I:PRINT:LPRINTTAB(3);
80 FORI=0TO127:IFI<10THENLPRINT
"0":GOTO90
```

```
85 IFI>99THENLPRINTMID$(STR$(1),
3,1);GOTO90
88 LPRINTMID$(STR$(1),2,1);
90 NEXT I:PRINT:LPRINTTAB(3);
95 FORI=0TO127:LPRINTRIGHT$(STR$(
1),1);NEXT I:PRINT
110 FOR T=0TO63
120 LPRINTMID$(STR$(T),2);CHR$(1
8);
126 LPRINTCHR$(27);CHR$(16);CHR$(
0);CHR$(17);
130 FORI=0TO127:LPRINTCHR$(255);
CHR$(129);CHR$(129);CHR$(129);
131 LPRINTCHR$(129);CHR$(129);
135 NEXT I:LPRINTCHR$(255);LPRINTC
HR$(30);NEXT I:LPRINTCHR$(18);
136 LPRINTCHR$(27);CHR$(16);CHR$(
0);CHR$(17);
137 FORI=0TO768:LPRINTCHR$(129);
NEXT I
139 LPRINTCHR$(30)
140 LPRINTCHR$(27);CHR$(19);CHR$(
14);CHR$(27);CHR$(54):END
145 REM*****
146 REM PRINTER CODES EXPLAINED
150 REM CHR$(27);CHR$(20)=133
CHARACTERS PER LINE
155 REM CHR$(27);CHR$(56)=3/4
FORWARD LINE FEED
160 REM CHR$(18) PUTS PRINTER
INTO GRAPHICS MODE
165 REM*****
170 REM CHR$(27);CHR$(19)=NORMAL
80 CHARACTERS PER LINE
175 REM CHR$(27);CHR$(54)=FULL
FORWARD LINE FEED
176 REM CHR$(30) PUTS PRINTER
INTO NORMAL MODE
```



```

2610 FOR P=1 TO 4:A1=RND(9):B1=RND(A1):A2=RND(8):A3=RND(9):B3=RND(A3)-1
2620 B2=RND(9):IF B2<=A2 THEN2620
2630 GOTO2420
2700 N=10:FOR R=1 TO N:PRINT#-2,E$
2710 FOR P=1 TO 4:A1=RND(8):A2=RND(8):A3=RND(9):B3=RND(A3)-1
2720 B1=RND(9):IF B1<=A1 THEN2720
2730 B2=RND(9):IF B2<=A2 THEN2730
2740 GOTO2420
2800 N=10:FOR R=1 TO N:PRINT#-2,E$
2810 FOR P=1 TO4:A2=RND(8):A1=0:A3=RND(9):B3=RND(A3):D1=RND(9)
2820 B2=RND(9):IF B2<=A2 THEN2820
2830 GOTO2420
2900 N=10:FOR R=1 TO N:PRINT#-2,E$
2910 FOR P=1 TO 4:A1=RND(8):A2=0:A3=RND(9):B3=RND(A3)-1:B2=RND(9)
2920 B1=RND(9):IF B1<=A1 THEN2920
2930 GOTO2420
3000 N=10:FOR R=1 TO N:PRINT#-2,E$
3010 FOR P=1 TO 4:A1=0:A2=0:A3=RND(9):B1=RND(9):B2=RND(9):B3=RND(A3)-1:GOTO2420
3100 N=8:FOR R=1 TO N:PRINT#-2,E$
3110 FOR P=1 TO 4:A1=RND(9):A2=RND(9):A3=RND(9):A4=RND(9):B1=RND(9):B2=RND(9):B3=RND(A3):B4=RND(A4)-1
3120 C(P)=A1+A2*10+A3*100+A4*1000:B(P)=B1+B2*10+B3*100+B4*1000:A(R,P)=C(P)-B(P):NEXTP
3130 GOSUB5000:LX=5:GOSUB6000:NEXTR:GOTO1180
3200 N=8:FOR R=1 TO N:PRINT#-2,E$
3210 FOR P=1 TO 4:A1=RND(8):A2=0:A3=0:A4=RND(9):B4=RND(A4)-1:B2=RND(9):B3=RND(9)
3220 B1=RND(9):IF B1<=A1 THEN3220
3230 GOTO3120
3300 N=5:FOR R=1 TO N:PRINT#-2,E$
3310 FOR P=1 TO 4:GOSUB780:C(P)=RR
3320 GOSUB780:IF RR>C(P) THEN3320 ELSE B(P)=RR
3330 A(R,P)=C(P)-B(P):NEXTP
3340 GOSUB5000:LX=6:GOSUB6000:NEXTR:GOTO1180
5000 FOR P=1 TO 4:PRINT#-2,USING F1$:C(P):NEXTP:PRINT#-2," "
5010 FOR P=1 TO 4:PRINT#-2,USING F1$:B(P):NEXTP:PRINT#-2,STRING$(35,8);
5020 RETURN
6000 FOR P=1 TO 4:PRINT#-2,TAB(9)*P+(68-LX));"-";NEXTP:PRINT#-2," "

```

```

6010 FOR P=1 TO 4:PRINT#-2,STRING$(7-LX,32);STRING$(LX+1,45);" "
:NEXTP:PRINT#-2," " :RETURN

```

## The Listing:

```

1 'DIVISION WORKSHEET
  BY DEAN HODGSON
2 GOTO10
3 SAVE"DIVSHEET.2":STOP
10 CLEAR200
15 E$=CHR$(13)
20 CLS:F1$="###,### ":F2$="+###,##,## "
100 CLS:PRINT"ADJUST PAPER TO TOP OF FORM.":PRINT@96,"EMPHASIZED PRINT ";:INPUTA$:IFA$="Y"ORA$="YES"THENPRINT#-2,CHR$(27)CHR$(69);
400 GOSUB960:PRINT@320,"A,B,C,D,E,F,G,H,I,J,K,L,M"
405 PRINT@128,"REFER TO MANUAL FOR TYPE BREAK-DOWN."
420 PX=464:GOSUB900
430 IF A$<"A" OR A$>"M" THEN400
440 GOTO4000
780 RR=RND(9)*1E4+RND(9999):RETURN
900 Z$=INKEY$
910 PRINT@PX,CHR$(128);
920 A$=INKEY$:IF A$<>" " THEN PRINT@PX,A$;:RETURN
930 GOTO920
950 IF INKEY$<>CHR$(13) THEN 950 ELSE RETURN
960 CLS:PRINT"WHICH TYPE OF PROBLEM DO YOU WANT GENERATED?"
970 PRINT@448,"TYPE LETTER":RETURN
980 PRINT@480,"OR PRESS SPACEBAR TO SEE MORE";:RETURN
1180 PRINT#-2,STRING$(15,13);"ANSWERS...";CHR$(13)
1190 FOR R=1 TO N:FOR P=1 TO 4:PRINT#-2,USINGF1$:A(R,P);NEXTP:PRINT#-2," " :NEXTR
1195 PRINT#-2,STRING$(10,13):END
4000 CLS:PRINT"DIVISION PROBLEMS TYPE ";A$
4010 PRINT#-2,CHR$(27)CHR$(87)CHR$(1);TAB(15)"DIVISION ";A$
4020 SK=ASC(A$)-64:ON SK GOTO 4100,4200,4300,4400,4500,4600,4700,4800,4900,8000,8100,8200,8300
4100 FOR R=1 TO 10:PRINT#-2,E$
4110 FOR P=1 TO 3:A=RND(9):B=RND(4)+1:PRINT#-2,TAB((P-1)*13);A*B;" "/"B;"="";NEXTP:PRINT#-2," "
4120 NEXTR:GOTO1195
4200 FOR R=1 TO 10:PRINT#-2,E$
4210 FOR P=0 TO 2:A=RND(9):B=RND(4)+5:PRINT#-2,TAB(P*13);A*B;" "/"B;"="";NEXTP:PRINT#-2," " :NEXTR:GOTO1195
4300 FOR R=1 TO 10:PRINT#-2,E$
4310 FOR P=0 TO 2:A=RND(9):B=RND(9):PRINT#-2,TAB(P*13);A*B;" "/"B;"="";NEXTP:PRINT#-2," " :NEXTR:GOTO1195
4400 V=3:N=10:FOR R=1 TO 5:PRINT#-2,E$

```

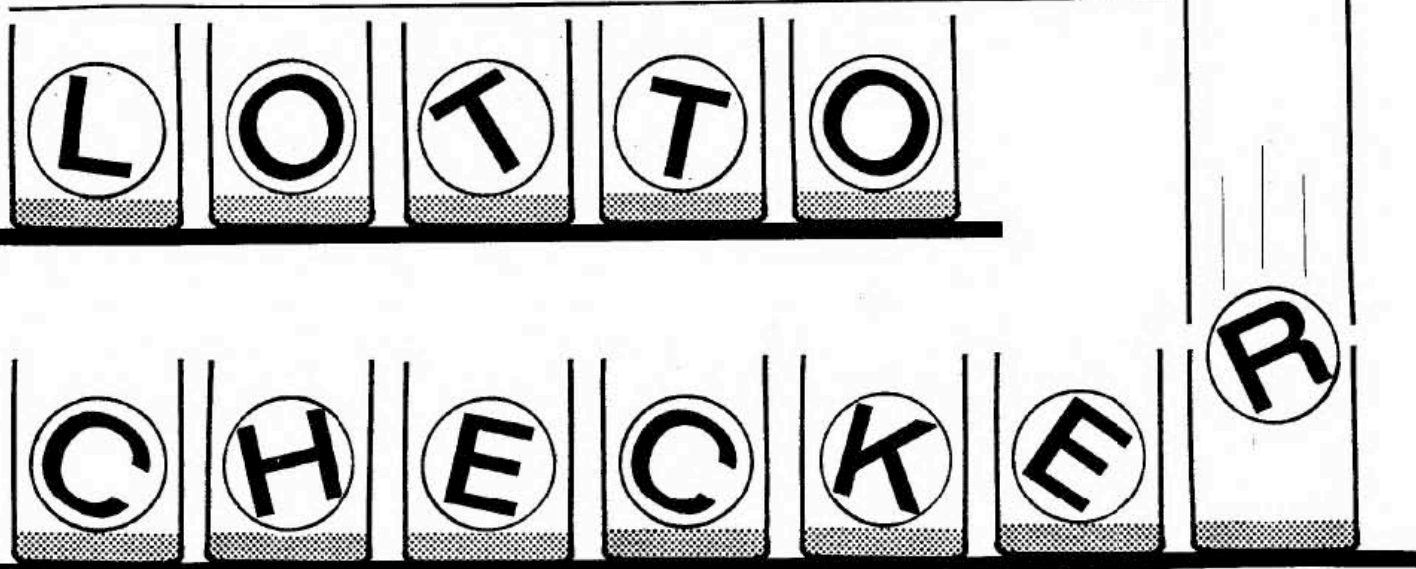
```

4410 FOR P=1 TO 4:B=RND(4)
4420 A1=RND(9):IF INT(A1/B)<>A1/B THEN4420
4422 A2=RND(9):IF INT(A2/B)<>A2/B THEN4422
4425 C(P)=A1*10+A2:B(P)=B:A(R,P)=C(P)/B(P):NEXTP
4430 GOSUB5000
4435 NEXTR
4440 FOR R=6 TO N:PRINT#-2,E$
4450 FOR P=1 TO 4:B=RND(4)
4455 A1=RND(9):IF INT(A1/B)<>A1/B THEN4455
4457 A2=RND(9):IF INT(A2/B)<>A2/B THEN4457
4459 A3=RND(9):IF INT(A3/B)<>A3/B THEN4459
4460 C(P)=A1*100+A2*10+A3:B(P)=B:A(R,P)=C(P)/B(P):NEXTP
4470 GOSUB5000:NEXTR:GOTO1180
4500 V=3:N=10:FOR R=1 TO N:PRINT#-2,E$
4510 FOR P=1 TO 4:B(P)=RND(9)
4520 C(P)=RND(99):IF C(P)<=10 THEN4520
4530 A(R,P)=C(P)/B(P):D(R,P)=B(P):NEXTP
4540 GOSUB5000
4550 NEXTR:GOTO6000
4600 N=8:FOR R=1 TO N:PRINT#-2,E$
4610 FOR P=1 TO 3:B(P)=RND(9)
4620 C(P)=RND(999):IF C(P)<100 THEN4620
4630 A(R,P)=C(P)/B(P):D(R,P)=B(P):NEXTP
4640 V=3:GOSUB5000
4650 NEXTR:GOTO6000
4700 N=7:V=3:FOR R=1 TO N:PRINT#-2,E$
4710 FOR P=1 TO V:B(P)=RND(9)
4720 C(P)=RND(9999):IF C(P)<1000 THEN4720
4730 GOTO4630
4800 N=7:V=3:FOR R=1 TO N:PRINT#-2,E$
4810 FOR P=1 TO V:B(P)=RND(9)*10
4820 C(P)=RND(999):IF C(P)<100 THEN4820
4830 GOTO4630
4900 N=6:V=3:FOR R=1 TO N:PRINT#-2,E$
4910 FOR P=1 TO V:B(P)=RND(9)*10
4920 GOTO4720
5000 FOR Q=1 TO V
5010 LX=LEN(STR$(C(Q))):LY=LEN(STR$(B(Q)))
5020 PRINT#-2,STRING$(LY+2,32);STRING$(LX,95);STRING$(16-V-(LY+LX+2),32);NEXTQ:PRINT#-2," "
5025 FOR Q=1 TO V
5030 PRINT#-2,B(Q);CHR$(41);C(Q);STRING$(15-V-(LY+LX+2),32);NEXTQ:PRINT#-2,STRING$(LX,13);:RETURN
6000 PRINT#-2,STRING$(15,13);"ANSWERS...";CHR$(13)
6010 FOR R=1 TO N:FOR P=1 TO V
6020 AN=FIX(A(R,P)):RM=A(R,P)-AN:RM=INT(RM*D(R,P)+.5)
6030 PRINT#-2,AN;"R";RM;" " :NEXTP:PRINT#-2,E$

```

continued next page





16K ECB

## APPLICATION

by Wayne Kely

**L**OTTO CHECKER IS a program made to check your lotto results. Just enter your numbers plus your supplementary numbers.

Then enter what the results were and the computer will give you the results.

### The Listing:

```
0 GOTO10
3 SAVE"211:3":END'10
10 '*****
20 '*****LOTTO CHECKER*****
30 '*****BY WAYNE KELY*****
40 '*****CREATED 3/1/87*****
50 '*****
80 CLS:POKE 359,57:SCREEN 0,1:PR
INT@3,"L O T T O   C H E C K E R
"
90 PRINT:PRINT:INPUT"WHAT SYSTEM
DO YOU HAVE:";A
100 IF A<6 THEN GOTO 80
110 '*ENTER THIS WEEK'S DRAW NO#
120 CLS:PRINT:PRINT:PRINT"ENTER
THIS WEEK'S NO.S"
130 FOR T=1 TO 6
140 PRINT"ENTER NO.:";T:INPUTX(T)
:IF X(T)=0 OR X(T)>45 THEN 140
```

```
150 NEXT T:PRINT:PRINT"ENTER SUP
PLEMENTARY":INPUT"1ST SUPP";X(7)
:PRINT:INPUT"2ND SUPP";X(8)
160 CLS:PRINT"ARE THESE THE CORR
ECT NO.S (Y/N)"
170 FOR T=1 TO 8:PRINTTAB(10)T".
"X(T):NEXT T
180 INPUT YN$:IF YN$="N" THEN GO
TO 120
185 '*** ENTER COUPON NO.S ***
190 CLS:PRINT:PRINT:PRINT"ENTER
YOUR NUMBERS "
200 FOR X=1 TO A
210 PRINT"ENTER NO. ";X:INPUT T (
X)
220 IF T(X)=0 OR T(X)>45 THEN 21
0
230 NEXT
240 CLS:PRINT:PRINT"ARE THESE TH
E CORRECT NO.S (Y/N)?" :FOR
X=1 TO A:PRINTTAB(10)X"."T(X):NE
XT
250 INPUT YN$:IF YN$="N" THEN CL
S:GOTO 190
260 IF YN$="Y" THEN 280
270 GOTO 240
280 FOR C=1 TO A
290 FOR Y=1 TO 6
300 IF T(C)=X(Y) THEN CO=CO+1
310 NEXT Y,C
320 FOR F=1 TO 8
```

```
330 FOR Z=7 TO 8
340 IF T(F)=X(Z) THEN SP=SP+1
350 NEXT Z,F
360 IF CO<3 THEN GOTO 440
370 IF CO=3 AND SP>0 THEN V=5
380 IF CO=4 THEN V=4
390 IF CO=5 THEN V=3
400 IF CO=5 AND SP>0 THEN V=2
410 IF CO=6 THEN GOTO 480
420 CLS:PRINT"HEY, YOU GOT A ";V
;" DIVISION WIN. THAT'S PRETTY
GOOD."
430 SOUND 100,1:FOR U=1 TO 2000:
NEXT:GOTO 450
440 CLS:PRINT:PRINT"SORRY, BUT Y
OU ONLY GOT ";CO;" NUMBERS.
BETTER LUCK NEXT TIME":END
450 CLS:PRINT:PRINT"DO ANOTHER C
OUPON SCAN (Y/N)"
460 INPUTYN$:IF YN$="Y" THEN GOT
O 190
470 END
480 FOR T=1 TO 50:CLSRND(9)-1:SO
UND T,1:NEXT
490 CLS:PRINT:PRINT:PRINT:PRINT"
GUESS WHAT? YOU HAVE WON,THE
BIG ONE. YOU'RE NOW ONE RICH
DUDE."
500 END
```

○

from previous page

```
XTP:PRINT#-2," "
6040 NEXTR:GOTO1195
8000 N=5:V=3:FOR R=1 TO N:PRINT#
-2,E$
8010 FOR P=1 TO V
8020 B(P)=RND(29):IF B(P)<>11 TH
EN8020
8030 C(P)=RND(999):IF C(P)<100 T
```

```
HEN8030
8040 A(R,P)=C(P)/B(P):D(R,P)=B(P
):NEXTP
8050 GOSUB5000:NEXTR:GOTO6000
8100 N=4:V=3:FOR R=1 TO N:PRINT#
-2,E$
8110 FOR P=1 TO V:B(P)=RND(9)*10
+RND(9)
8120 C(P)=RND(9999):IF C(P)<1000
```

```
THEN8120
8130 GOTO8040
8200 N=4:V=3:FOR R=1 TO N:PRINT#
-2,E$
8210 FOR P=1 TO V
8220 B(P)=RND(9)*10+RND(9)
8230 GOSUB780:C(P)=RR:GOTO8040
8300 N=4:V=3:FOR R=1 TO N:PRINT#
-2,E$
8310 FOR P=1 TO V:B(P)=RND(9)*10
+RND(9)
8320 C(P)=RND(9)*1E5+RND(9)*1E4+
RND(9999):GOTO8040
```

○



# DRAW

Draw is a simple PASCAL program which should compile using most versions of PASCAL (with very little modifications). This one was compiled using TURBO PASCAL.

The program is just a child's fun program. Trying to teach a young child what keys do what is

the hardest part but when they are competent you will enjoy just what your child can create.

There is nothing special about the program. It is as straight forward as you will get it. You could dress it up a bit for your liking. Add new commands, etc.

Have fun and happy computing.

## Tandy 1000

by Leigh Dawes

```
program DRAW (INPUT, OUTPUT);
```

{This program draws according to key pressed. I is up, M is down, K is right  
J is left, D is draw, and E is to erase a pixel, Q is to quit, C is to clear  
the screen, U is NW, O is NE, comma is SE, and N is SW}

```
const
```

```
    RIGHTBORDER = 600;           {Screen border limits}
```

```
    LEFTBORDER = 0;
```

```
    TOPBORDER = 20;
```

```
    BOTTOMBORDER = 191;
```

```
    STEP = 5;
```

```
                                {This is the difference in stepping}
```

```
type
```

```
    PIXELTYPE = (DRAW, ERASE); {Cursor can draw or erase}
```

```
var
```

```
    X1, X2, Y1, Y2,             {Co-ordinates}
```

```
    COLOR : INTEGER;
```

```
                                {color number. 0 is off. 5 is on}
```

```
    CH : CHAR;
```

```
                                {character variable}
```

```
    PIXEL : PIXELTYPE;
```

```
                                {pixel type}
```

```
    FLAG : BOOLEAN;
```

```
procedure CLEARSCREEN;
```

```
{Clears the screen. May use something else on other machines}
```

```
begin {CLEARSCREEN}
```

```
    CLRSCR {not standard pascal}
```

```
end; {CLEARSCREEN}
```

```
procedure INTRO;
```

```
{Introduction display}
```

```
var
```

```
    REPLY : CHAR;
```

```
begin {INTRO}
```

```
    CLEARSCREEN;
```

```
    GOTOXY (5, 5);
```

```
    WRITELN ('J A C K I E ' ' S   D R A W I N G   P R O G R A M');
```

```
    GOTOXY (5, 10);
```

```
    WRITELN ('By Leigh Dawes 6/5/87');
```

```
    GOTOXY (5, 12);
```

```
    WRITELN ('(c)copyright 1987');
```

```
    GOTOXY (5, 20);
```

```
    WRITELN ('Please type any key.');
```

```
    READ (KBD, REPLY)
```

```
end; {INTRO}
```

```
procedure INITIALIZE;
```

```
begin {INITIALIZE}
```

```
    CLEARSCREEN;
```

```
    {swaps to high resolution screen}
```

```
    HIRES; {not standard pascal}
```



```

    {initialize pixel to draw and co-ordinates}
    PIXEL := DRAW;
    X1 := LEFTBORDER;
    X2 := LEFTBORDER + STEP;
    Y1 := TOPBORDER;
    Y2 := TOPBORDER + STEP;

    {display to screen the commands}
    GOTOXY (1,1); {not standard pascal}
    WRITELN ('<M>DOWN: <I>UP: <J>LEFT: <K>RIGHT <U>NW: <O>NE: <,>SE: <N>SW: ');
    WRITELN ('<C>LEARSCREEN: <Q>UIT: <D>RAW: <E>RASE');
end; {INITIALIZE}

procedure ERRORSOUND;

{Used when cursor tries to go off the screen}

begin {ERRORSOUND}
    WRITE (CHR(7))
end; {ERRORSOUND}

procedure GODRAW;

{Sets color then draws the line to screen}
begin {GODRAW}
    if PIXEL = DRAW then
        COLOR := STEP
    else
        COLOR := 0;
    {endif}
    DRAW (X1,Y1,X2,Y2,COLOR)
end; {GODRAW}

procedure SAVEOLDPOS;

{saves old co-ordinates}

begin {SAVEOLDPOS}
    X2 := X1;
    Y2 := Y1
end; {SAVEOLDPOS}

procedure CHECKDIR;

{Checks co-ordinates for illegal screen positions and acts accordingly}

begin {CHECKDIR}
    if X1 < LEFTBORDER then
        begin {if}
            X1 := LEFTBORDER;
            ERRORSOUND
        end; {if}
    if X1 > RIGHTBORDER then
        begin {if}
            X1 := RIGHTBORDER;
            ERRORSOUND
        end; {if}
    if Y1 < TOPBORDER then
        begin {if}
            Y1 := TOPBORDER;
            ERRORSOUND
        end; {if}

```



---

```

        end; (if)
    if Y1 > BOTTOMBORDER then
        begin (if)
            Y1 := BOTTOMBORDER;
            ERRORSOUND
        end; (if)
    end; (CHECKDIR)

procedure UPDIR;

    {Updates cursor position chosen by 'I' for up}

begin (UPDIR)
    Y1 := Y1 - STEP;
end; (UPDIR)

procedure DOWNDIR;

    {Updates cursor position chosen by 'M' for bottom}

begin (DOWNDIR)
    Y1 := Y1 + STEP;
end; (DOWNDIR)

procedure RIGHTDIR;

    {Updates cursor position chosen by 'K' for right}

begin (RIGHTDIR)
    X1 := X1 + STEP;
end; (RIGHTDIR)

procedure LEFTDIR;

    {Updates cursor position chosen by 'J' for left}

begin (LEFTDIR)
    X1 := X1 - STEP;
end; (LEFTDIR)

procedure NWDIR;

    {Updates cursor position chosen by 'A'}

begin (NWDIR)
    UPDIR;
    LEFTDIR
end; (NWDIR)

procedure NEDIR;

    {Updates cursor position chosen by 'S'}

begin (NEDIR)
    UPDIR;
    RIGHTDIR
end; (NEDIR)

procedure SEDIR;

    {Updates cursor position chosen by 'X'}

```

---



---

```

begin (SEDIR)
    RIGHTDIR;
    DOWNDIR
end; (SEDIR)

procedure SWDIR;

(Updates cursor position chosen by 'Z')

begin (SWDIR)
    LEFTDIR;
    DOWNDIR
end; (SWDIR)

procedure DRAWPIXEL;

(Draws pixel to screen)

begin (DRAWPIXEL)
    PIXEL := DRAW;
    GODRAW
end; (DRAWPIXEL)

procedure ERASEPIXEL;

(Erases pixel off screen)

begin (ERASEPIXEL)
    PIXEL := ERASE;
    GODRAW
end; (ERASEPIXEL)

procedure CHECK;

(Checks what character has been pressed and acts accordingly)

begin (CHECK)
    if PIXEL <> DRAW then
        GODRAW;
    SAVEOLDPOS;
    case CH of
        'D' : DRAWPIXEL;
        'E' : ERASEPIXEL;
        'I' : UPDIR;
        'M' : DOWNDIR;
        'K' : RIGHTDIR;
        'J' : LEFTDIR;
        'U' : NWDIR;
        'O' : NEDIR;
        ',' : SEDIR;
        'N' : SWDIR;
        'C' : INITIALIZE;
        'Q' : CLEARSCREEN
    else
        FLAG := FALSE (this line and next line may not be accepted)
        (using standard pascal.)
    end; (case)
    CHECKDIR;
    GODRAW;

```

---



```

if PIXEL = ERASE then
  begin
    PIXEL := DRAW;
    GODRAW;
    PIXEL := ERASE
  end
end; {CHECK}

begin {DRAW}
  {Intro screen displayed}
  INTRO;

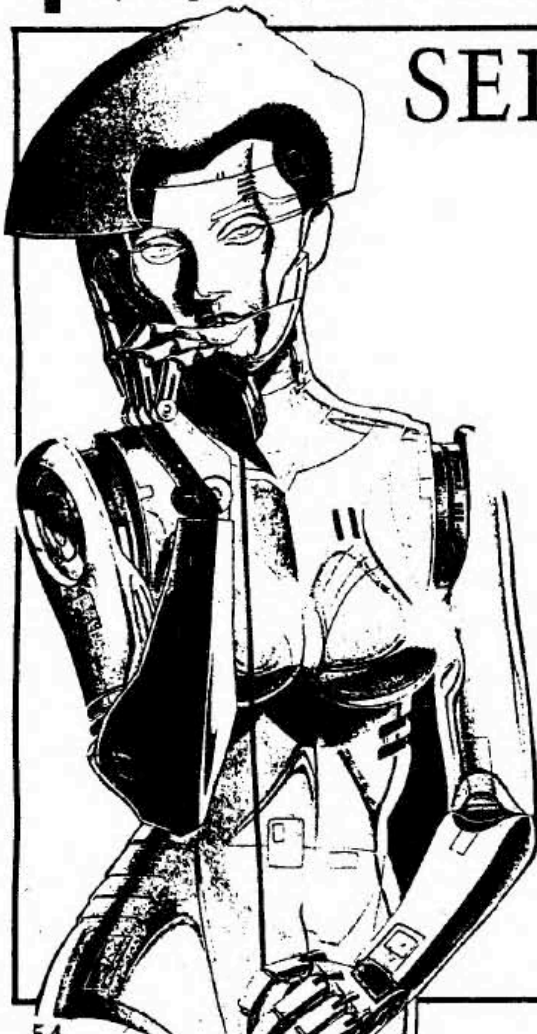
  {go and initialize variables and bring hires screen on}
  INITIALIZE;

  {get character and act on it}
  repeat
    FLAG := TRUE;
    READ (KBD, CH);    {KBD not standard pascal}
    CH := UPCASE(CH);
    CHECK;
    if FLAG = FALSE then
      ERRORSOUND;
  until CH = 'Q';

end. {DRAW}

```

(by Leigh Dawes, (051) 745552 for comments and questions.)



# SEEN GOLDLINK YET?

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---

# ADDER

Tandy 1000

by Leigh Dawes

Adder is a program for young children (probably preschool or just starting school). Children are not all the same and must be treated accordingly when it comes to learning. Let them learn at their own pace and don't push them, teach them.

Adder was supposed to be a fun game for my daughter. She has learnt very well from this short simple program.

I used the popular TURBO

PASCAL to compile the program but it will probably (with some modifications) compile on other versions of PASCAL. Alter the program to suit the child, and dress it up a bit. The graphics are not the best, but this is what my child is accustomed to. I won't change it for now because she enjoys that and the short sound routine when she answers correctly. (That is her reward). She is also used to the

incorrect sound. I always try and use the same sounds for correct and incorrect so the child knows without knowing how to read whether it was correct.

Play around with the program and experiment. Modify the program to suit the child and not you.

Happy Computing.

by Leigh Dawes.

(051)745552 for questions and comments

```
program ADDER (INPUT, OUTPUT);
```

```
{Program for my daughter Jacqueline which drills her in adding  
two numbers whos answer doesn't exceed ten. Program can be modified  
to exceed 10 but jackie is only four years old.}
```

```
const
```

```
    MAXNUM = 9;    {maximum number for problem}  
    ZERO = 0;      {better use this rather than magic numbers.}  
    MAXANSWER = 10; {maximum answer allowed}
```

```
type
```

```
    RANGE = ZERO..MAXNUM; {this is the range of numbers we will use.}
```

```
var
```

```
    NUM1,                {first number of problem}  
    NUM2,                {second number of problem}  
    NUM3 : RANGE;        {answer to num1 plus num2}  
    VOLCONTROL,          {volume control: higher number lower volume}  
    ANSWER,              {the answer from user}  
    COUNT,  
    NUMTRIES,  
    PROBLEMS,            {number of problems attempted so far}  
    NUMCORRECT : INTEGER; {number of correct answers so far}  
    CH : CHAR;           {character from keyboard}
```

```
procedure POLL;
```

```
{This procedure waits for the return key to be  
pressed before execution is resumed. }
```

```
var
```

```
    CH: CHAR;
```



---

```

begin {POLL}
    WRITELN;
    WRITE ('Press <ENTER> or <return> to continue. ');
    READLN (CH)
end; {POLL}

procedure CLEARSCREEN;
begin {CLEARSCREEN}
    CLRSCR      {This statement is not supported by standard pascal}
end; {CLEARSCREEN}

procedure INTRO;

begin {INTRO}
    CLEARSCREEN;

    {Display games name}
    WRITELN;
    WRITELN ('Jackie''s adding game.....');

    {Poll the keyboard.}
    POLL
end; {INTRO}

procedure GETNUM (var NUM1, NUM2 {output} : RANGE);

{Outputs two random numbers into NUM1 & NUM2 whos sum doesn't exceed
MAXANSWER}

begin {GETNUM}
    NUM1 := RANDOM (MAXNUM) + 1;  {RANDOM not standard pascal}
    NUM2 := RANDOM (MAXNUM) + 1
end; {GETNUM}

procedure SOUND (SOUND, DEL, VOL : INTEGER);
{SOUND is the frequency, DEL is the delay factor, and VOL
is the volume at which the sound is played. You may need to leave
all sound statements out if not supported by your machine}

const
    SNDREG1 = 192;
    SNDVOL = 150;
    CHGSND = 128;

var
    COUNT : INTEGER;

begin {SOUND}
    {fix the volume first}
    PORT [SNDREG1] := SNDVOL;
    PORT [SNDREG1] := VOL;

    {change sound to sound required}
    PORT [SNDREG1] := CHGSND;

```

---



---

```

    PORT [SNDREG1] := SOUND;
    DELAY (DEL);
end; {SOUND}

procedure SOUNDOFF;

```

```

    {Switches off all sounds currently on}

```

```

const
    MIN = 192;
    MAX = 199;
var
    REG,
    COUNT : INTEGER;

begin {SOUNDOFF}

    {switch sound off}
    for REG := MIN to MAX do
        begin {for}
            PORT [REG] := 150;
            PORT [REG] := 15
        end; {for}
    end; {SOUNDOFF}

```

```

procedure CORRECT (var NUMCORRECT {input/output} : INTEGER);

```

```

    {The answer to the problem must be correct for control to be here}

```

```

const
    MESSAGE = 'That is correct.';
    COLOR = 5;
    MIN = 1;
    MAX = 20;

var
    COUNT : INTEGER;
    X1, X2, Y1, Y2 : RANGE;

begin {CORRECT}
    {give a graphic display for reward}
    HIRES;    {not standard pascal. You may have to leave all graphics out}

    for COUNT := MIN to MAX do
        begin {for}
            repeat
                GETNUM(X1, X2);
                X1 := X1 * 100;
                X2 := X2 * 100;
            until (X1 < 600) and (X2 < 600);
            repeat
                GETNUM (Y1, Y2);
                Y1 := Y1 * 19 + 40;
                Y2 := Y2 * 19 + 40;
            until (Y1 < 191) and (Y2 < 191);
            DRAW (X1, Y1, X2, Y2, COLOR);
        end; {for}

```



---

```

    (Give a correct sound)
    for COUNT := 1 to 30 do
        SOUND (COUNT, 20, VOLCONTROL);
    for COUNT := 30 downto 1 do
        SOUND (COUNT, 20, VOLCONTROL);

    (switch sound off and return to normal video)
    SOUNDOFF;
    LOWVIDEO;

    (update number of correct answers.)
    NUMCORRECT := NUMCORRECT + 1
end; {CORRECT}

procedure INCORRECT;

const
    MESSAGE = 'That is incorrect...';

begin {INCORRECT}
    CLEARSCREEN;
    WRITELN;
    WRITELN (MESSAGE);

    (Output sound to indicate wrong answer.)
    SOUND (63,1000,VOLCONTROL);
    SOUNDOFF
end; {INCORRECT}

procedure PROBLEM;
begin {PROBLEM}
    repeat
        GETNUM (NUM1, NUM2);
        NUM3 := NUM1 + NUM2;
    until NUM3 <= MAXANSWER;
    NUMTRIES := ZERO;
    repeat
        WRITE ('What does ', NUM1 :2, ' + ', NUM2 :2, ' = ');
        READLN (ANSWER);
        if ANSWER = NUM3 then
            CORRECT (NUMCORRECT)
        else
            begin {else}
                INCORRECT;
                NUMTRIES := NUMTRIES + 1;
                if NUMTRIES > 2 then
                    WRITELN ('The answer was ', NUM3 :3);
            end; {else}
        until (NUMTRIES > 2) or (ANSWER = NUM3);
    end; {PROBLEM}

procedure INITIALIZERANDOM;
begin
    RANDOMIZE (not standard pascal statement)
end; {INITIALIZERANDOM}

```

---



```

procedure GAMECONTROL;
begin {GAMECONTROL}
  repeat
    ANSWER := 0;
    PROBLEM;
    PROBLEMS := PROBLEMS + 1;
    WRITE ('Do you want another? (Y/N) : ');
    repeat
      READ (KBD,CH);
    until (UPCASE(CH)='Y') or (UPCASE(CH)='N') or (CH = CHR(13));

    {If carriage return then treat it as another go.}
    if CH = CHR(13) then
      CH := 'Y';
    CLEARSCREEN;
  until (CH = 'N') or (CH = 'n')
end; {GAMECONTROL}

```

```

procedure ENDGAME;
begin {ENDGAME}
  WRITELN ('Out of ', PROBLEMS, ' problems you have ', NUMCORRECT, ' correct. ');
  for COUNT := 1 to 3 do
    begin {for}
      SOUND (30,200,VOLCONTROL);
      SOUNDOFF;
      DELAY (20)
    end; {for}
  SOUND (40,500,VOLCONTROL);
  for COUNT := VOLCONTROL to 15 do
    SOUND (40,200,COUNT);
  SOUNDOFF
end; {ENDGAME}

```

```

begin {ADDER}
  INITIALIZERANDOM;
  INTRO;
  NUMCORRECT := ZERO;
  PROBLEMS := ZERO;
  VOLCONTROL := 3;
  GAMECONTROL;
  WRITELN;
  ENDGAME;
end. {ADDER}

```

{By Leigh Dawes, (051) 745552 for comments or questions}



# IN BRIEF

Here's What's Happening

## Splits put CD ROM's in cold storage

CD-I Systems are based on Compact Disk read only memory (CD-ROM) technology. They use lasers to read these disks enabling users to manipulate stored text, numerical and geographical information.

But the market is already showing signs of a split between standards and pessimism about its potential is beginning to set in.

They say that it will be about two years until CD-I systems start to become standard.

The biggest problem was to develop applications at a low enough price to fuel market acceptance and growth.

Up till 1988, a significant amount of experimenting will take place, and at 1990, the first serious applications will be out. By 1992 prices should be down to about \$US500 and individual applications will be down to about \$US10.

The CD-I format is sponsored by Sony and Phillips, the two giants of the CD audio industry.

The CD-I system requires a special Phillips chip and uses the little known OS-9 operating system.

Now, doesn't that sound just dandy?? OS-9 is preferred over MS-DOS! That would mean a significant step towards true efficiency.

People question the scenario

because it doesn't use the "industry standard" of MS-DOS. This, by the way, is one of the several points of objection.

Not only all that, but other big companies (like Apple & RCA) either don't want to hear about it or don't want to know it, because they want to have their own so-called "standard".

## CoCo 2 going

### Cheap!

Tandy's Colour Computer II's are going out with a bang!

You can now get the computers for only \$99.95, instead of the \$299.95 usually paid!

## Sycom's

### Curcuit Breaker

Sycom's Mains Muffler computer protects computer installations against mains voltage surges or high voltage interferences.

It includes a 4 amp resettable curcuit breaker that makes sensitive computer and peripheral gear safer than it is with the large curcuit fuses or breakers.

The system also suit audio and video equipment.

The four-power outlet is \$199 and the two-power outlet is \$129.

## And now... a FAX for your

### T1000/IBM PC

The Software Corporation of Australia has just released a new generation device, the MFAX96 - a combination communications protocol device - which allows an ordinary PC to function as a FAX machine.

You can use a standard WP package to create your message, and then send it directly to any FAX machine in the world!

It can be programed to send a document at any time to any number of pre-defined phone numbers!

Up to 10000 FAX numbers can be programmed into the system which includes the database software.

ERP is \$1995 (including Tax) and this includes software, modem, the FAX card and the manual.

The board is a short one, so it will fit the T1000.

Contact us at Goldsoft for further information.

## Even the Army can use Viatel!

Yes that bastion of conservatism, the Australian Army has moved to Viatel! (And no, not to 642 unfortunately for them!)

The Army selected Viatel because of its penetration and because it can get information to people quickly.

The department will have a diary of events, listings of contact names and numbers for the federal and state offices, and there will be a list of all books, video tapes and publications of defence activities available to the public. Gripping stuff eh?

## Sharp Releases New PC

Sharp has released an addition to their PC range of computers, the PC1425.

This little machine has statistical functions, which include a 24 character display and 8K of RAM, expandable to 24K using optional RAM cards.

In the computer mode, a user can write programs to solve specific problems using a built-in Basic language.

The PC1425 has a wide range of peripherals, including printers, RAM cards, and a cassette interface.

The going price? - \$346, inc tax!



## Pacman outwits Security guru

The latest fad to hit local computer security experts is the tracking down of illicit insertion boards.

Insertion boards are extra circuit boards that "appear" inside computers and are used primarily for enhanced hacking activities.

One firm wanting to seek a few examples boasted to a would-be client that it had one of the

insidious devices for display, but couldn't give up with the goods when it came down to the crunch.

Charging around the office, he spied a pacman game (encased in an Atari games cartridge), ripped open the casing and roared off with the board in hand to the client.

The client company was so impressed with the sleuthing job that it signed up immediately on the spot.

Even today the security guru who heads the company wasn't told about the little subterfuge!

## Tandy Releases Cordless Telephone

Tandy have just released their new cordless telephone! It features 32 number memory autodial, auto re-dial, 200 metres range and a whole lot more!

Can be also used as a two-way intercom, but with it needing one extra phone.

The price for such a telephone? Only \$329.95 from any Tandy store.

## Sybiz Payroll Software

Sybiz software has released a software package designed to meet the personnel and payroll requirements of those employing up to 6,500 staff.

The Sybiz Plus Software runs on IBMs or compatible stand alone PC's.

It has pull-down menus and can search staff records by number, name, department or award and is \$795 (ex. tax).

## ROB, the Clayton games player

ROB is a video system that is enjoying overwhelming success in the USA and Japan.

Although it looks promising on the outside (robot and all), it loses appeal when assembled.

The game involves a TV screen, two joysticks, control deck, a zapper and the robot.

The object of the game is to

use ROB, which is pre-programmed, to beat the game in the control deck.

You soon discover it's more fun to get a flesh and blood buddy to play against and switch off the mechanical moron.

The software left little to be desired, and was a little on the basic side.

But not to worry, you'll get 30 minutes of mind-numbing enjoyment, if nothing else, for the mere price of only \$450.

# GOLDLINK

a Goldsoft Service

## \*642#

for

- Tandy Computer Owners
- Atari Computer Owners
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- Amateur Radio Information
- The Viatel Fast Florist
- Consumer Watch
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# B&T

## ELECTRONICS

(Formerly Bayne & Trembath)



Best prices available on all Tandy computers and accessories.

Free delivery to anywhere in Australia.

All major credit cards welcome.

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## MARTHA's Trading Post

Some of you computer derros have accumulated so much junk in the past few years, you are becoming a menace to society and a health hazard to your cat.

This is your chance to get rid of those unwanted bits of equipment.

Place your ad here and I'll leave it on till your steam operated modem or whatever gets sold, or I get sick of the sight of your ad.

Martha

### For Sale:

- \$ 60: CoCoMax 1-2 Package
- \$ 40: CoCoIewx (For CoCo 2 & 3)
- \$100: Tandy Pascal Compiler
- \$ 25: Musica
- \$ 30: P51 Mustang Simulator
- \$250: Avtek Multi-Modem (Viatel Compatible)
- \$150: Tandy DMP100 printer (still in box)

All software is original including manuals.  
Phone David Ly on (067) 7288279

\*\*\*\*

### For Sale:

- \$100: CoCo 2 Multipack interface
- \$150: Tandy Deluxe RS232 program pak

Disk Games (\$25 each)

Marble Maze, Paper route, Karate

Tape Games

- Space Shuttle (Tom Mix) - \$10; Quix (Tom Mix) - \$20; King Tut (Tom Mix) - \$20; Shenanigans (Mark Data) - \$20; Space Invaders (Spectral) - \$20; Los Vegas (Prism Software) - \$15; Las Vegas Weekend (Prickely Pear) - \$15; Zaksund (Elite Software) - \$20; War of the Worlds (Part 1, 2 & 3) - \$40

Tape Utilities

- VIP Writer (Tape & Manual) - \$50; RTD Trio (Program transfer Utility: tape to disk to tape and rom pak transfer programs) - \$25

Phone Harry on (07) 411314 after 5pm weekdays and anytime on weekends.

\*\*\*\*

### For Sale:

- \$ 15: Cessna Lander Flight Simulator. Requires two joysticks.
- Phone (087) 551591

### For Sale:

\$200: 32K ECB Grey CoCo with manuals, inverse switch and shift lock; VIP Writer word processing program (Disk & Tape); about 200 - 300 programs from Rainbow and CoCo including Educational, Music, Graphics, Utilities and more!

Write to: Steve Youngberry,  
PO Box 244,  
Tara, 4421

\*\*\*\*

### For Sale:

\$Make an Offer: 64K ECB Grey case CoCo with real keyboard. It works!

Phone Adrian Jowett on (002) 302358 (work)  
or (002) 235352 (home).

\*\*\*\*

### For Sale:

\$300: TRS-80 Level 2 and Monitor as new with instruction books, etc.

\$200: 64K ECB CoCo with manuals, books, etc.  
All in excellent Condition.

Phone Roy Jackson (02) 523-3473

\*\*\*\*

### For Sale:

\$25/\$50 for both: "Dinowars" and "Monster Maze", 2 years old but still in working condition. No instruction book. \$25 for one/\$50 for both.

Phone Aaron Harwood (Tasmania) 344142  
or write to 274 Argle St,

Nth Hobart, 7000

\*\*\*\*

### For Sale:

\$850: Grey case 64K ECB CoCo, HJL 57 Keyboard fitted (original chicklet keyboard loose), composite video and audio output card, power on led fitted; CCR 81 cassette recorder; NEC twin disk drives, model PC8032B with controller and RS DOS & Rainbow bits DOS chips; original Telewriter-64 software on tape and disk, Dynacalc, Pro-Color-File and VIP Database on disk; some US Rainbow and CoCoOz on disk and tape, lots of other software on tape and disk; US Rainbow Magazines; Program books, etc etc.

Write to Barry C. Carle,  
1 Wendy St,  
Morrabin, 3189

\*\*\*\*

### Wanted:

\$40: Word Processing program for 64K CoCo. Must be Tape based. Perhaps somebody with Telewriter 64 who doesn't need their tape. I would be prepared to pay 1/2 price of new, say around \$40.

Phone David Phillips on (07) 8072663 evenings

\*\*\*\*

### Wanted:

\$make an offer: Digitizer (prefer DS691 from Micro Works, but any other will do)  
Call Malcolm Patrick on (086) 457637



# GOLDSOFT

P.O. BOX 1742, SOUTHPORT. QLD. 4215 Phone (075) 39-6177

Goldsoft Price list as at March, 1987

Please tick ☒ your requirements.

## HARDWARE

CoCoConnection: \$206.00 ( )  
Video Amp: With Sound - \$35.00 ( )  
Without Sound - \$25.00 ( )  
The Probe: \$49.95 ( )

## GOLDLINK

Access Goldlink #642# on Viatel with a 1200/75  
baud modem. Annual subscription: \$39.75 ( )

## SOFTWARE

### Magazines, Tapes & Disks

Australian CoCo (Advanced Programs for your CoCo):

Magazines:	Tape ( ) or Disk ( )
12 Months \$39.95 ( )	12 Months \$123.75 ( )
6 Months \$24.95 ( )	6 Months \$ 74.25 ( )
1 Month \$ 4.50 ( )	1 Month \$ 16.50 ( )

Softgold (Programs for your CoCo):

Magazines	Tape ( ) or Disk ( )
12 Months \$39.95 ( )	12 Months \$123.75 ( )
6 Months \$24.95 ( )	6 Months \$ 74.25 ( )
1 Month \$ 4.50 ( )	1 Month \$ 16.50 ( )

Gold Disk - Available Quarterly:  
1 Month: \$16.00 ( )

### The CoCo3 Tape/Disk:

# 1 - Tape: \$10.00	Disk: \$16.00 ( )
# 2 - Tape: \$10.00	Disk: \$16.00 ( )
# 3 - TAPE: \$10.00	DISK: \$16.00 ( )

### "Say the Wordz":

Two Curriculum based speller programs for  
your Tandy Speech/Sound Pack: \$29.95  
Req. 32K + Tandy Speech Pack ( )

Best of CoCoOz - \$16.00

A selection of programs from Australian  
CoCo Magazine.

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# 2 - Games 32K:	( )	( )
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# 5 - Adventure:	( )	( )
# 6 - Preschool:	( )	( )
# 7 - Graphics:	( )	( )
# 8 - Games 16K:	( )	( )
# 9 - Games 32K:	( )	( )
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## BRIC-A-BRAC

Blank Tapes: 12 @ \$18.00 ( )  
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1 @ \$ 2.50 ( )

## BOOKS

Help (for your CoCo): \$9.95 ( )

Mico Help (for your MC-10): \$9.95 ( )

## BACK ISSUES

Australian CoCo: Sep 84 - Dec 85: \$2.00 ( )  
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(Stop between numbers = b.h. etc  
a.h.; but, hyphen between = both)

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# DIRectory

Insertions in this Directory cost \$160.00 for six months or \$300.00 for twelve months per frame. Changes to Insertions incur a further charge.

If you sell Soft or Hardware for Tandy computers, you need to be listed in this quick reference guide.

Remember! Tandy owners READ this magazine!

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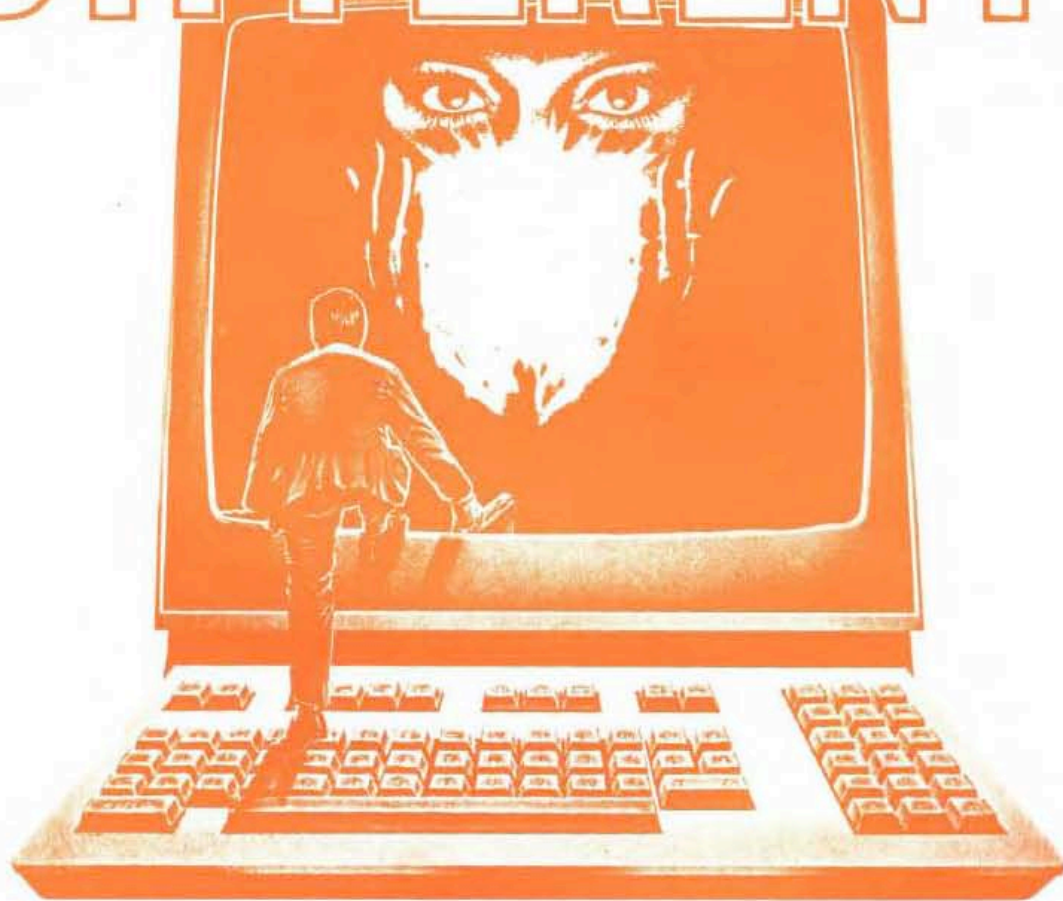
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