

The Aussie Mag
for Amstrad owners

THE AMSTRAD USER

Issue No. 52

\$4.25

May 1989



- *Part one of a frustrating logic program + more on Algorithms + BBC to CPC Basic conversion hints*
- *New series on DR Logo + using ED with CP/M + two new PCW games come under the microscope*
- *Review of MS Flight Simulator + Compatibles Corner*

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THE AMSTRAD USER

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All enquiries and contacts concerning this Publication should be made in the first instance by writing to The Amstrad User, 641 High Street Road, Mount Waverley, Victoria 3149, Australia. Urgent matters can be phoned through on (03) 233 9661.

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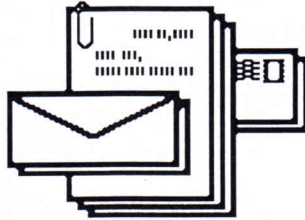
From time to time, some articles appearing in The Amstrad User will be reproductions from UK publications Amstrad Action, 8000 Plus and CPC Computing (formerly Computing with the Amstrad). The first two are printed under an agreement between Strategy Publications and Future Publishing Ltd, Bath, and the latter under an agreement with Database Publications.

The subscription rate (for Australia) is \$42.50 for 12 issues of the magazine only, or \$80.00 for 12 issues of the magazine plus tape (for CPC range only) containing programs appearing in that issue. Postage is included in the above prices. For subscriptions to New Zealand, PNG, Solomon Islands or Vanuatu please add \$21 airmail. Other overseas prices available upon application.

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The Amstrad User is an independent Australian magazine, in no way affiliated with Amstrad or their Australian distributors or any dealer in either software or hardware (TAU Shop excepted).

LETTERS TO THE EDITOR



A monthly selection of your comments, hints and tips, advice and news - all shared for the benefit of Australasian Amstrad users.



I would like to comment on your magazine. There is only one thing I don't like about it: there is nothing for people who want to write to a pen-friend. So could you please think about that, and if you can't would someone like to write to me? I have a CPC464 and my address is: 24 Campbell St., Shepparton VIC 3630.
Corey Powell, Shepparton Vic.

If there are sufficient people wanting pen-pals we would certainly consider providing the means for them to contact each other. If you are interested we would like your comments please.



Firstly I'd like to say that your magazine is wonderful. I'm a new owner of an Amstrad PC1640 and even though I've only read two issues, I've learned a lot. I also like the fact that it's tailored towards both the experienced AND the novice. I can actually understand most of the content.

Anyway the reason I write is that I'm having trouble with my display (I have a CD screen). I bought the "Time And Magik" game but I'm having trouble bringing up the correct graphics. The menu lists eight choices for display including Amstrad PC1640. I choose this and get a blank screen. The PC1512 option gives me black and white pictures and the EGA option gives

me black and white shots. When I type in DISPLAY EGA (using system disc 2) all I get is a scrolling colour picture. I also have this problem with some of the discs provided by C. J. Collins (in Issue 48). Only some of the games will work - others give a blank screen. One even says "Enhanced Graphics Adaptor not found".

I hope you can help me as it's terribly frustrating when I can't get through to a game. Again thanks for a good magazine and I hope to see more PC info.

Paula Carnagoy, Caerparoo QLD

From what we can establish, you can only get black and white response from your CGA monitor - this is how the T&MT programmers chose to write the game (although they could have provided more colours). Other games such as Star Trek, The Rebel Universe and Who Framed Roger Rabbit use other four-colour palette options.



Excuse me nitpicking, if I first compliment you on publishing two very interesting programs - TIM (TAU 47) and Survival (TAU 48). My nitpick is that you use lower case "l" (ell not one!) in your listings. This to me is a definite no-no of programming. I approve of lower case for variables, but the use of l and o particularly is to be avoided.

In TIM, line 10630 is a bit confus-

ing: IF m1 = 0 THEN m1=41-etc. Note that you changed from l to 1!!! most reprehensible. Mind you, I had to use a magnifying glass to be certain.

In Survival, line 510 would confuse the inexperienced. FOR yy=y+1 to y+l-2 (I first typed y+1-2 before realizing my stupid mistake!).

All this could be avoided by using 'long' as the variable. Sure, it takes up more memory, and more time to type, but is less likely to cause confusion.

By the way, why doesn't TIM work? The menu bar doesn't appear. Maybe the demo program is missing. Line 1760, mentioned in the text but not in the listing seems to indicate this.

Might I also suggest a few amendments to Wheel of Fortune TAU47, p56? Amend line 250 by adding 'GOTO 270' - otherwise you can't win on Bet No.3. And in Bomb Disposal line 300 change PRINT "" to PRINT " " or things will foul up.

Thanks for the mental exercise!

Your comments please.

A.K. McGill, Pakuranga, N. Z.

Yes, there is one 'ell of a problem sometimes. We do try to amend the programs if we have time and we have asked many times in the past for programmers to avoid this style of programming. Thanks for bringing it to our attention again.



I own an Amstrad CPC 6128 and have subscribed to this magazine since October 1988 and still think it's the best Amstrad mag for sale.

This letter concerns an article in the March 1989 TAU. It was about Serendipity, a public domain disc which I don't own, but this was not the problem. The problem was with the screen effects' listing in the second part of the article. Just above the listing, there was a small program that was entered using SID. When I tried to enter the demo program into SID, it wouldn't accept anything I tried to type in. After failing this, I tried to enter it straight into CP/M without running any

other programs first. This failed also. After re-reading the article, I found that the program was an assembly listing. When I ran ASM to enter the program, it told me there was no source file present. The question is, do I need Serendipity to enter the listing, or am I just going about it wrong?

I also have included a little four line program that I found a couple of years ago in an English Amstrad magazine. It will only work for 464 owners or people that own an external data recorder. The program allows you to use your computer as a volume indicator. All you do is type in the program, put a music tape in the data recorder, run the program and press play. A thin line should appear from the bottom left hand corner of the screen and go straight up to the middle and then head across to the right of the screen. When the music is turned on, the line peaks according to the volume of the sound. The effect is very good

for any music with a loud drum beat.

The only problem with the program is it is very sensitive and will peak if there is any static on the tape. Also the music is very hard to hear, but I managed to get around this problem by putting a double headphone jack into the ear port on the back of my data recorder and then plugging in an extra speaker eg: headphones. The result of this is that you get better sound quality than just turning the volume up on the computer itself.

```
10 OUT &F600,&10
20 x%=0:MODE 2: MOVE 0,0
30 y%=0:FOR z%=0 TO 10:y%=y%+
  INP(&F500):NEXT:y%=y%/6
40 DRAW x%,y%:x%=x%+3:IF x%>639
  GOTO 10 ELSE 20
```

Lastly, I have been trying to buy the game Elite for quite some time now after seeing it on a friend's computer but I have never seen it in any store or any of your product

listings and I was wondering if it is available through your magazine and at what cost.

I hope that you can use this letter in your magazine. Keep on churning out all of the good articles, and do you have any job vacancies for games reviewers?

Thanks for all the help.

Mark Gaylard, Ferntree Gully, Vic.

The assembly listing published was the source code which needs to be converted (assembled) into object code (machine code instructions). You can use RPED to input the listing, then use ASM.COM to assemble it.

Elite has been out of stock for ages but can be found on the Supreme Challenge compilation. With regard to job vacancies for game reviewers, the Joystick Wizard is firmly entrenched!



I am having problems with the game HEAD OVER HEELS. I am able to get the crowns from the

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planets BOOKWORLD, EGYPTUS and PENITENTIARY and I am able to get to the crown room in SAFARI however I am unable to get the crown and I was wondering if any of your readers can tell me the procedure needed to get it, also I would like to know how to get back to BLACKTOOTH after joining HEADS & HEELS together in the marketplace.

Hoping you will print this letter in your magazine as I would like to be able to get these crowns which I have not been able to get and so return to FREEDOM with all 5 crowns.

Please excuse this letter being hand-written as it is due to a problem with the printhead on my machine.

Stephen B. Skilton, Condon, Qld.



I am very happy to come home each month and find your brilliant, well produced, and very informative magazine in my letter box. I like to congratulate you on getting the magazine to me at the beginning of each month, not like another mag I used to get. Well done on getting the Jan '89 issue out before you went on holidays.

If that doesn't get this letter printed, then nothing will. I notice that some of your articles come from the English Amstrad Action which is a good mag in itself, and maybe your mag could follow it some more. For example most people, when looking at a game review look for some type of mark out of 100. Also, you could introduce a 'Second Opinion' by another person on the same program, as your reviewer may not like one type of game, war games for example, and hence not give it a good review.

I would also like to see 'Hackers Only' brought back, as I enjoy 'working' on my computer. The Index Four was a good idea and I hope you will repeat this for every year, as it makes life much easier. I am also looking forward to Roger Williams' Public domain articles. One series that would be good,

would be on the files of CP/M v 3.0 as the manual says stuff- all about them.

While I am writing, would somebody be able to tell me what to do in 'The Sydney Affair'. I examine the clues, load the next section, and then can't do anything with the police computer.

Anton Sparrius, Eumemmerring. Vic.

Thanks for your comments. We have often discussed the idea of giving a rating to a piece of software (we used to in the very early days of the magazine). However, the opinion of the Joystick Wizard may not coincide with your or other readers' opinions. In fact, reading other UK magazines often reveals that one will rate a game highly while another will knock it. We think it more sensible to pass an opinion for the reader to make a final judgement.



May I add a few comments to the letter from R.H. Seaborn, in your April issue, about the Printmaster+ program, and at the same time present a bouquet, through your columns to Ken who works in (at) Computer Wedge, Shellharbour Square.

I purchased a copy of the above program, (Sat. afternoon) and headed home full of wonderful plans. Alas and alack, the little slip of yellow paper that was supposed to be in the package was missing, therefore no instructions on how to get the program running.

Consequently a very frustrated weekend, and on the shop doorstep first thing Monday morning. Full and patient explanations from Ken, (use CPM) and home again. Straight into the program designing a poster for our upcoming Church Fete with, as R.H. Seaborn comments, much side A to side B etc. etc.

Finally finished, sent to printer, deathly hush, printer on strike? Not a bit of it. In my eagerness I hadn't checked that this would work on my printer, a DMP 1, it wouldn't.

Back to shop, explained problem to a very patient Ken and after parting with a bit more cash,

exchanged the program for Tasword 6128, in which I am highly delighted, particularly as an expatriate Pom I find that it originates in my home town.

So it appears that all's well that ends well. Not only do I feel that I have gained with the WP programs, but have also learned that there are still a few around who are dedicated to their chosen line, and have patience to explain the ins and outs, as well as sell the product.

Thank you for your patience in reading this.

Ronald Mahoney, Port Kembla. N.S.W.



I live in San Remo which is about 120kms from Melbourne and I don't know of any Amstrad users close by.

I have been using a 464 for the last four years and have just changed over to a PCW 8256. The reason for the 256 purchase was a desire to do some serious writing. It seemed much more sense to get the self contained unit than spend around \$800 or more on a disc unit and printer for my 464. Time will tell as to whether I have done the right thing.

I don't understand why there is a different Basic (Mallard) on the PCW 8256. Can the CPC programs be amended for feeding into the 256? Is there any book about the difference between the Basics used on these two Amstrad units?

D.A. Ellerton, San Remo, Vic.

There are not any books which specifically relate to the conversion of programs between the PCW and the CPC although we did publish an article called "A matter of conversion" by Chris Wooton in the March '89 issue which should give you some clues.

All letters should be addressed to:

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We were very lucky and honoured to have well known personal-

ity and fellow Amstrad owner Gus Mercurio to officially open the shop at 10.30 am. Gus gave a run-down to a packed shop on the history of Amstrad from the launch of the first CPC464 in 1984 to the newly released PC2000 series. He also recounted the rise of The Amstrad User magazine from its early

beginnings in 1985 to its number one position today. Having declared the shop open, Gus then circulated amongst the visitors exchanging views and ideas with attentive users.

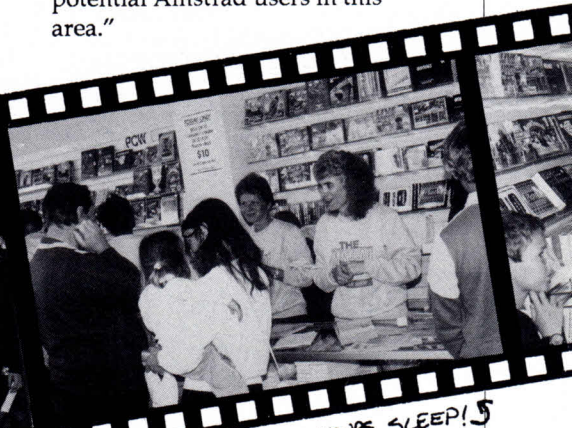
With the exception of the PC20, all other Amstrad computers were on show. There was a great deal of interest in the new PC2086 and the PC1512/1640, in fact one person bought two PC1512s (*His and Hers perhaps - Ed*). Many customers expressed amazement at the amount of software and books that were available for the Amstrads - which is hardly surprising as the shop boasts of having the largest range in Australia.

The Manager, Tim Jarvis commented: "The response was overwhelming. I was kept busy all day and had to ask people to leave at 5.00 o'clock! I was encouraged at the level of computing knowledge shown by customers and I am looking forward to developing a personal service for current and potential Amstrad users in this area."

THE SHOP AND "FISHBOWL" ABOVE ↻



EVERYONE AT ATTENTION FOR GUS ↻



SMILES DESPITE FOUR HOURS SLEEP! ↻

WHO'S EATING THEIR WORDS? ↻



NOT MUCH ROOM TO STRETCH. ↻



"WHEN I HAD A BABBAGE..." ↻

LocoScript & LocoSpell

THE BETTER FASTER WORD PROCESSOR FOR YOUR PCW

LOCOSCRIPT 2 GIVES YOU:

Faster movement through your documents

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Paper Type	Find page
A4	????
✓ A4 Cont	End page here
11" Fanfold	Last line of page
2" labels	
► Use Paper Type	Keep current line with:
Show Paper Type	?? lines above
	?? lines below

LOCOSPELL OFFERS:

Spelling checker within LocoScript

Longman's 78,000 word English dictionary

An automatic correction facility

A word count for Locoscript

The screenshot displays the LocoScript 2 interface with a document titled "Dear Peter". A spelling checker window is open, showing the word "since" as the "Stopped at" word. The "Replacement" is also "since". A menu is visible with options: "Use suggested replacement", "Replace and then edit", "Edit this word", "Consult dictionary", "Ignore this word", "Mark this word correct", and "Add to user dictionary". Another window shows the word count: "Words checked: 238" and "Words to add to dictionary: 4". The main document text includes: "Dear Peter", "I have been evaluating our likely need for our initial order will be for 10,000 in no less than 5,000. It would be significantly, and perhaps now is the time to do business together at last.", "the coming months and widgets, with monthly if you could let me current price breaks in", "perhaps we ought to get together at some time to discuss a new project we have on the stocks. This will involve".

TOGETHER LOCOSCRIPT 2 AND LOCOSPELL MAKE YOUR PCW MUCH BETTER - BUT THAT'S NOT ALL...

48-PIN DOT MATRIX FROM EPSON

Way back in the middle of last year we reported that Epson had unveiled a 48-pin printer at a computer show in Germany. Nearly a year later the TLQ4800 has been launched in the UK and Australia.

It has a wide carriage able to handle cut sheets or continuous stationery and it uses a special type of film ribbon supplied as standard to give a resolution of 360 x 360 dots per inch. Although this resolution may seem better than a laser printer which normally has 300 x 300 dots

per inch, the dot on the TLQ4800 is larger so it will not be as sharp as the laser - however it still compares quite favourably.

The TLQ4800 has ten built in type styles and will work at 100 characters per second in Near Letter Quality mode and 300 characters per second in Draft mode. The only snag is the price. In Australia it will cost \$3990 excluding sales tax. For further details you can ring Epson on (02) 452 0666 or Auckland, New Zealand on (09) 598499.

UPGRADES TO LOCOSCRIPT2

The days of sending back your master disc to either The Amstrad User or to Locomotive Software in the UK are numbered.

An installation program is now supplied free with the entire LocoScript2 family of products which automatically upgrades your existing version of LocoScript2 to the latest version. For example, if you wanted to purchase LocoFile or perhaps the 24-pin Printer Drivers disc, both of which need the new 2.20 version of LocoScript2, a program to install the new version onto your system can be found on

the flip side of the software you are purchasing.

Of course there may be some people who are only interested in getting the latest version of LocoScript2. For 8256/8512 owners there is an upgrade disc which contains the installation program, LocoChar and the Sans Serif Font. For 9512 owners the upgrade disc contains the latest version of LocoScript2, LocoMail and LocoSpell. Each disc costs \$52.95 and does not require you to send back your master disc.

MIGENT AND AMSTRAD UK RUMOURS

It is believed that Amstrad has renewed its agreement with Migent UK to continue to bundle the integrated software package Ability with the PC1512 for a further year. It is not known whether the agreement will cover Australia as apparently the deal also includes the PC1640 but for mainland Europe only. Ability has been translated by Amstrad into a number of languages including Modern Greek and Portuguese.

Also from the rumour room comes a suggestion that Amstrad may bundle Release One of Lotus'

Symphony with the new PC2000 series.

In the meantime, Amstrad have circularised a technical bulletin to UK dealers warning of a problem in the hard disk controller of some early model PC2086s. The symptoms are data read and write errors when using the hard disc and are simply repaired with the installation of a ceramic capacitor. It is very unlikely that any faulty machines would have reached Australia as the fault has been rectified by the factory since the middle of January and the Australian launch was at the end of March.

MICROSOFT/AMSTRAD AGREEMENT

A licensing agreement with Microsoft now allows Amstrad to sell OS/2 on the PC2286 and PC2386 range. OS/2 is a multi-tasking operating system too big for a standard 2286, which will require an upgrade to 4mbs of memory, but can be accommodated by the larger 2386 without modification. No prices or delivery dates have been announced yet.

SUGAR'S BUBBLE BURSTS

Alan Sugar has regularly produced good profits for his company during the meteoric rise of Amstrad. It was inevitable that the bubble would eventually burst and this was demonstrated in the latest half-year figures released by Amstrad. It showed a reduction in profits for the first time of some 16% and was blamed on the shortage of memory chips (D-RAMS) causing a loss of £57 million of sales.

Alan Sugar said: "We have a great company with many great products, both old and new. We have good distribution and sales outlets in most major world markets. Our problems in 1988 were related to supply and technical matters, most of which have now been resolved."

AMS TAKEOVER CAUSES DELAYS

Producers of the desktop publishing system Stop Press for both the CPCs and PCWs and Finesse for the PCs appear to have sold the rights to Database. Shipments of Stop Press, AMX Mouse(s) and Extra Extra have been delayed while new contracts are signed with Database. It is expected that deliveries from the new supplier will arrive at The Amstrad User at the end of April.

PRICE CORRECTIONS

In the Pactionic's advertisement last month (inside front cover) the price for Mercenary Compendium should have read \$29.95 for the CPC disc version and not \$24.95 as published.

In the same issue we managed to replace an advertisement for Stop Press with an old draft version which had a few spelling errors and incorrect prices. The correct prices were shown in the Green Software Supplement. More haste, less speed! Most people realised the errors, but for those that didn't we are sorry.

SCHWARZENEGGER FOR CPC

Both Ocean and Grandslam have signed up the licences to produce two games based upon Arnold Schwarzenegger movies. Ocean will handle 'Red Heat', a story of a Russian detective who goes to America in pursuit of his quarry. Grandslam have the job of converting 'The Running Man' to the small screen. They claim that the plot, in which Mr. Schwarzenegger is pursued for sport in a TV game is "the perfect storyboard for a compelling home computer game".

NEW SUPERIOR/ALLIGATA LABEL

In our February magazine we reviewed "By fair means or foul", an unusual boxing game in which you can cheat (as long as the referee doesn't see you!). This game is the first offering from Superior Software since they took over the Alligata label and acquired the rights to many of its games. Superior is better known for its releases on the BBC Acorn and Electron including the arcade hit Repton. The good news for CPC owners is that this title may also be released for them along with "top quality brand original software."

DBASEII FOR PCW?

A new version of dBaseII specifically designed for the PCW is currently under stringent trials through the Ashton Tate quality control system. The distributor of the package has yet to be revealed, but don't hold your breath. Ashton Tate are pretty choosy about who they let distribute their product and have already parted company with First Software and aren't exactly seeing eye to eye with Xitan at the moment. However all should be clear in a month or so.

Tasman

SOFTWARE

Advanced text processing software for the AMSTRAD family of computers

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The word processor. A TASWORD is available for every Amstrad computer, each making the best use of the computer's processing power and memory. Fast, efficient and thoroughly professional.

TAS-SPELL

The spelling checker option for Tasword. Use the dictionary provided to check your spelling, add new words at your choice.

TASCOPY

For the 464/664/6128 family, prints out high resolution screen copies (up to poster size). For the PC, provides a graphics editor, graphics/text merge, font designer and screen snapshot to disc.

TASPRINT

Provides additional impressive print styles for dot matrix printers. Adds emphasis and distinction to your documents.

TAS-SIGN

Produces signs, posters or banners, either across or along the sheet. Definable character height, borders, shading.

Title	RRP(\$)
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Tasword 464 (cass)	48.00
Tasword 464-D/664 (disc)	63.00
Tasword 6128 (disc)	63.00
Tas-spell (disc)	45.00
Tascopy 464 (cass)	26.00
Tascopy (disc)	36.00
Tasprint 464 (cass)	26.00
Tasprint (disc)	36.00
Tasdiary (disc)	36.00
Tas-sign 6128 (disc)	69.00
Amstrad PCW 8256/8512	
Tasword 8000	65.00
Tas-spell 8000	45.00
Tasprint 8000	39.00
Tas-sign 8000	69.00
Amstrad PC 1512	
Tasword PC	99.00
Demo disc (Tasword PC)	5.00
Tas-spell PC	89.00
Tascopy PC	89.00
Tasprint PC	89.00
Tas-sign PC	89.00

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PCW MACHINE CODE

This newly released book provides a clear description of controlling the PCW 8256, PCW 8512 and PCW 9512 by machine code programming.

Written by Mike Keys, this highly informative book provides a thorough description of what machine code is and how to use it, devoting separate chapters to each main feature of the PCW. Including:

- The Z80 processor
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MAIL ORDER DELAYS

First there was Easter, then the move of the Editorial and Mail Order operation from Springvale Road to High Street Road, and of course, the setting up of the retail shop a week later. All this upheaval has cost a lot of time and has reflected upon the orders received through the mail and our capacity to handle them quickly.

Rest assured we are doing our best to catch up on the backlog and we appreciate the patience that most readers are showing. For those new to our mail order service you may like to know that we do not charge credit cards or present cheques until your goods have been despatched. So if an entry does not appear on your statement, you can assume that your order has not been despatched before the date of the statement.

LATEST & GREATEST

The Joystick Wizard reviews NINE games this month and starts a new "Short 'n' Sweet" section.



WEC LE MANS

Tours et retours d'un chemin de Ocean

CPC Disc - \$44.95 CPC Tape - \$29.95
 PC - \$69.95

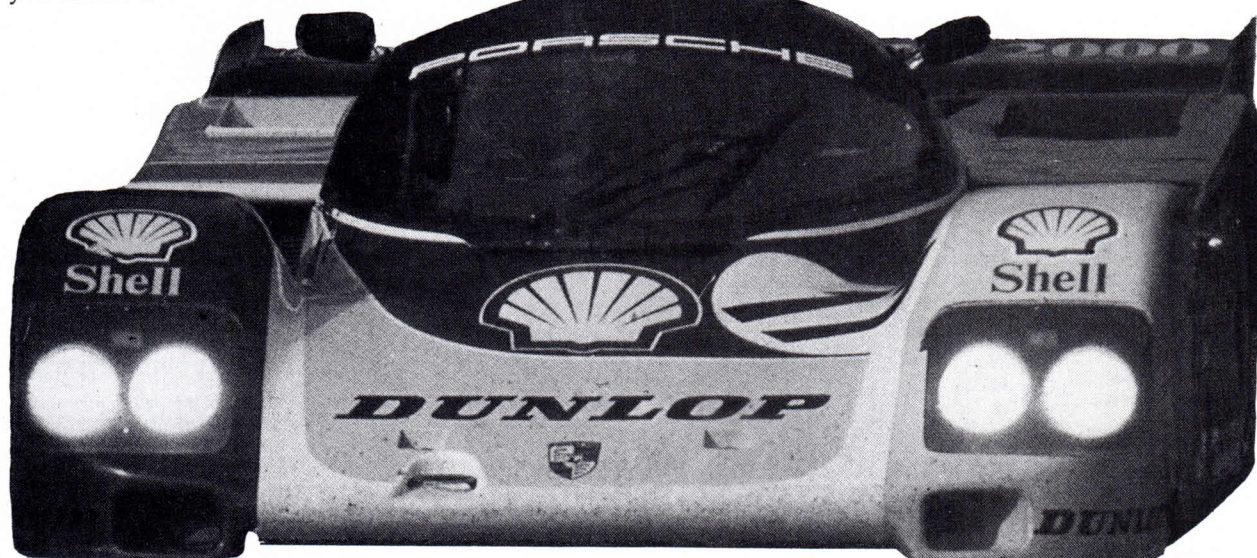
Before you go racing for your French-English dictionary the sub-title means 'twists and turns of a road from Ocean'. Not that I wanted to demonstrate my limited knowledge of French, but rather to add a Gallic flavour to this review, after all Le Mans is the most famous twenty-four hour car race and takes place over the public roads each year in France. The advantage of having WEC Le Mans on your Amstrad is that you are not restricted to playing it once a year and the game itself doesn't take 24 hours to complete!

The simulation takes place round a carefully recreated circuit which the player has to complete within a specified time. Simply said but in practice a great deal more difficult. For a start the car you're driving has the regulation two gears (regulatory it seems for racing car games anyway). The first gear gets you almost to

230 km per hour and the second to a suicide speed of over 330 km per hour where reactions are tested to the limit.

The screen display consists of a view from behind your car and the scenery scrolls past in a very smooth fashion but very quickly. There are some signs (not always, though) which give you an indication of bends ahead but no warnings are given about other obstacles such as slow drivers, oil on the road and so on. Encountering any of these will slow you down. At the top of the display are the points earned so far, the time left to complete the circuit and current speed. In the bottom right-hand corner is a symbol rather like an egg timer which indicates which gear you are currently using.

Although WEC Le Mans has just one circuit it includes some pretty treacherous



twists and turns to negotiate after the Malsanne straight at the beginning.

If you think WEC Le Mans is just another racing simulator then you need to think again. It requires very quick reactions and needs to be played a few times before you can appreciate the ability to 'drift' into a corner, feel the 'thump' as you hit the slip stream of

another car and complete a circuit within the prescribed time. If you do manage all of this, the next lap becomes more difficult with the addition of extra obstacles.

It's a cleverly constructed simulation which will no doubt test the ability of the player/driver and the robustness of the joystick (or keys). I thoroughly enjoyed it.

R-TYPE

An Electric Dreams arcade conversion

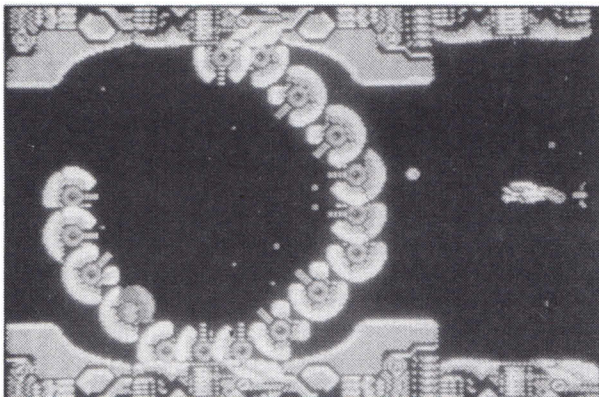
CPC Disc - \$44.95

CPC Tape - \$29.95

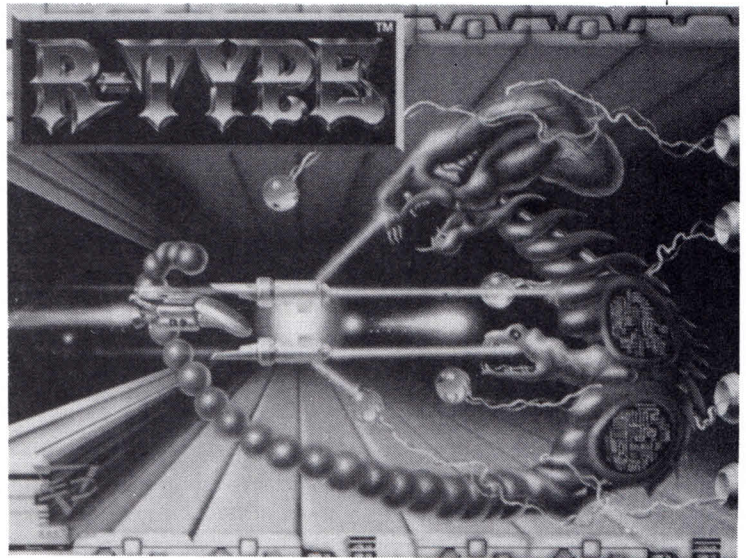
I suppose it's not really fair comparing an arcade original with its home computer conversion but it is always interesting to see how well the programmers have done in keeping the important parts in the mini version. Bearing that in mind, I still found it difficult to come to any firm conclusions about R-Type.

The game takes place on a smooth horizontally scrolling area which shows your R-9 space fighter. Alien hordes can attack from either side. Below this is a panel showing the number of lives left, your score and a beam-meter. This last indicator shows the intensity of the laser beam you fire from your space craft and is in direct proportion to the length of time you hold your finger on the fire button. At the beginning of the game you have five credits which reduce by one each time the game ends. If you choose to play again, the game will commence from where you left off, providing you have enough credits. I like that idea - it saves having to go through the whole process again.

Some of the aliens carry 'treasure' which they leave behind when destroyed. Picking them up gives additional power to your space craft. For example, collecting the first provides 'the force', another spaceship which you can attach to the front or rear of your own craft and double your fire power or leave to act as a rear guard or frontal attack. Other treasures include reflection lasers (bouncing bombs), ground lasers and homing missiles. Then there are some which provide extra speed and shield orbs which float beside your ship as a protection device.



You'll need most of this awesome fire-power to deal with the first multi-segmented alien. It looks very much like a half curled caterpillar and has a totally impregnable top skin. The underside of the creature (pointing towards the centre of the circle it makes) is armed to the teeth (or should that be feet?). You need to get into the middle of the circle to do any good (or bad if you are an alien).

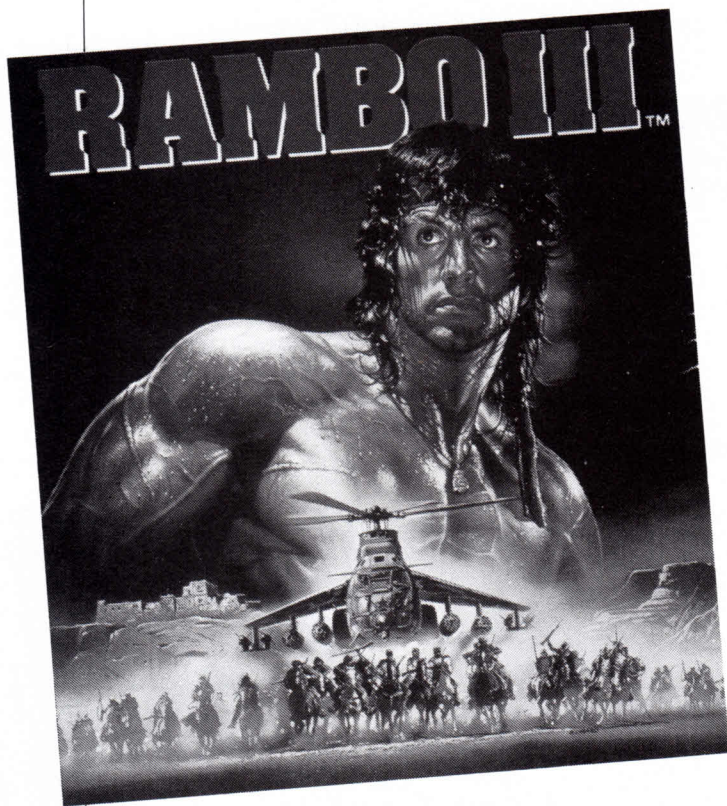


There are plenty of levels to go through with the final level bringing a confrontation with the biggest alien you are likely to see for a long time, unless you cheat and look at the cover on the box. The graphics are well done although lack a bit of colour (no problems for green screens). The programming on the conversion has kept pretty well to the original with the exception of the sound.

So why am I having trouble making up my mind? I think it's because I have seen so many arcade conversion that I am now becoming used to expecting less on the small screen versions, and thereby a little more tolerant in some of their short comings. R-Type doesn't match up to the original, but it is still a good game to play and just as addictive and difficult. I leave it up to you to decide.

RAMBO III

Ocean brings muscle to your Amstrad

CPC Disc - \$44.95 CPC Tape - \$29.95
PC - \$69.95

At last I've got around to having a good look at Rambo III and about time too. Even some of the winners of the Ocean/Ozisoft competition a few months ago got their copies before me. Was it worth the wait? Read on.

If you've seen the film you would know that the Russians have kidnapped Colonel Trautman in Afghanistan and macho John Rambo has the job of rescuing him. (Where have I heard that plot before?). There are three sections to the game. The first deals with the actual rescue of the Colonel, the second escaping from the prison compound and the last completes the escape from Afghanistan. Within each section are articles of use

for that particular phase. Let me deal with each section in turn.

The rescue - apart from freeing the Colonel, you also have the chance to free other prisoners you happen to find. To achieve this you must find certain tools in the compound such as infra-red goggles (to locate alarms), ammunition boxes, rubber gloves (for opening electrified doors) and mine detectors (for locating weapons). If you find a gun then firing it at the enemy will bring more out of the woodwork for you to contend with, so it is better to tip-toe around first and use the knife you have at the beginning of the game.

The escape - the aim here is to get to a helicopter to fly you to freedom, but clearly there has not been enough mayhem and destruction yet. For to earn the trip you have to prime all the booby-trap bombs to slow down the chasing enemy. The number of bombs to prime appears to be determined by a number next to a weapons panel.

Freedom - is not gained via the helicopter. A twist in the story finds the chopper permanently grounded but fortunately a tank, conveniently situated for Rambo to hijack, is the method of racing to the border and final freedom. Of course, having to change your method of escape has allowed the enemy to catch up from the previous booby-trap section. They too have tanks and a thunderous battle ensues. Having got through two levels it would be a shame to destroy all that hard work and blow it on this section, so be warned. The armour plating of your tank is not impregnable and your gun will cease to function due to overheating if not used sensibly.

The game itself takes place on a flick-screen with a picture of Rambo on the right. This portrait slowly changes into a skull as the level of injury to him increases. A gruesome addition indeed, but different at least. The graphics are good (fine on green screens too) but the sound is average. It has a reasonably high degree of playability and addictiveness that will have you coming back for more.

MOTOR MASSACRE

A less than adequate game from Gremlin

CPC Disc - \$44.95
CPC Tape - \$29.95

The holocaust has come, laying to waste cities, continents and civilisation. Out of the devastation emerges a breed of survivors merciless in their greed for simple possessions, barbaric in their thirst for power and dominance. To live even a day is hell ...blah, blah. You must fight your way to the Demon Dome and then complete the most horrifying carnival of motor destruc-

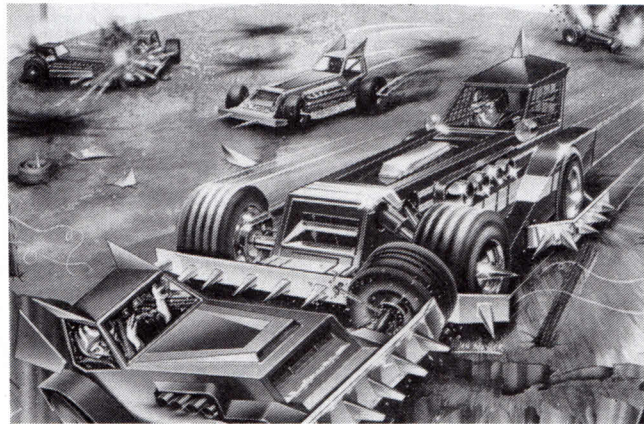
tion ever conceived (yawn), forcing your opponents into the endless chasm ...blah, blah, blah.

Had Motor Massacre lived up to the terrific write up on the cover, I may have been impressed, but really - this time the Gremlin cover writers went wildly overboard. The game centres around your All Terrain Vehicle, some battles and a final conflict with a mad

doctor. Apparently Dr. A. Noid is currently ruling most of the world after having invented a highly addictive junk food called Slu. Your quest is to search and destroy the doctor and collect a bounty.

The action, to use the term loosely, concerns progressing through three cities in your ATV removing the doctors henchmen who put up little resistance and avoiding gun emplacements. Some buildings can be accessed by foot to discover mutants for destruction or alternatively you could find food and extra parts for your ATV. The food can be exchanged later for repair bills and ammunition. You also have to find a pass to the arena to eventually gain access to the next level.

The fire power on your ATV is reasonably effective, but Gremlin must have been on a budget with this game because the ammunition it fires certainly doesn't look as though it will do any damage. The rest of the graphics are just as bad and the sound equally inade-



quate. If you enjoy smashing about in cars then you may take to this game. I don't and I didn't.

INGRID'S BACK

The continuing comedy/adventure from Level 9

CPC Disc - \$44.95 CPC Tape - \$34.95
PCW - \$59.95 PC - \$59.95

I quote from a letter sent to me by Pete, one of the Austin brothers who run Level 9:

"I enclose a review copy of Ingrid's Back, the new three-part comedy adventure from Level 9. In Gnome Ranger, Ingrid Bottomlow graduated from the Institute of Gnome Economics with great plans to modernise the family farm. But there were teething troubles, and her little improvements succeeded only in gnearily demolishing the place.

"Ingrid was gnot disheartened, even when a present from her family 'accidentally' teleported her to the wilderness.

"Gnow Ingrid's back, in a game set in the village of Little Moaning and starring the gnomes from her dairy. Their idyllic existence - fishing, drinking, sitting out in the rain etc. - is threatened both by the plans of our stunning heroine and by Jasper Quickbuck, new lord of Ridley's Manor. Jasper plots to steamroller the gnome belt for a Yuppie Homes development and only Ingrid can stop him. Whether she succeeds or not, it's going to be fun!"

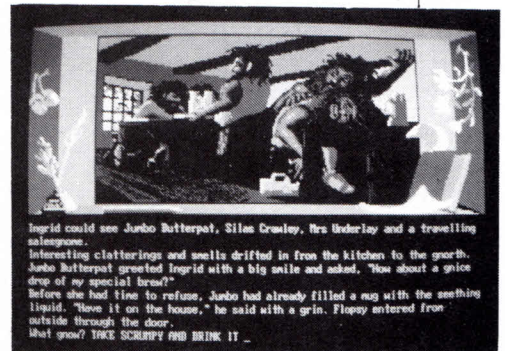
And indeed, Ingrid's Back is full of fun to play, every bit as good as Gnome Ranger with a clever balance of humour and tricks to keep the adventurer amused. The first part (all three parts can be played independently) is where the fight against Jasper Quickbuck begins with Ingrid taking round a petition for signature by all the local villagers. That is a task in itself as not all the villagers are keen to meet with Ingrid - her reputation is obviously well known. You will be surprised how devious they are in avoiding Ingrid and it requires some adventuring skills to find them all.

Part two features Silas Crawley, Jaspers side-kick and general dirty deed doer. He has been given the job,

along with a team of trolls and a steamroller, to steal the deeds of Gnettlefield Farm (Ingrid's home). Ingrid's task is obviously to stop them and put both the trolls and steamroller out of action.

The final part requires Ingrid to expose Jasper for the real villain he is and starts with her entering his home - Ridley's Manor. To do this she has to disguise herself as a maid, and fortunately she has some inside help from her cousin Daisy who also works at the manor. Travelling through the kitchen, reading room, banqueting hall and others will eventually provide the final solution.

I don't class myself as an avid adventurer, but I do enjoy playing Level 9 games. Ingrid's Back is no exception. The graphics are excellent on all formats and the parser quite intelligent. Additional features to avoid the necessity of typing in heaps of directions if you need to backtrack (after you have mapped everything out of course) are GO TO and RUN TO. These commands take you straight to the required location. Another time saver is the ability to type in just the first four characters of a word. If you get stuck the instruction booklet may provide a few hints, but anything more than that, you will have to wait for a hint sheet to appear in The Amstrad User.

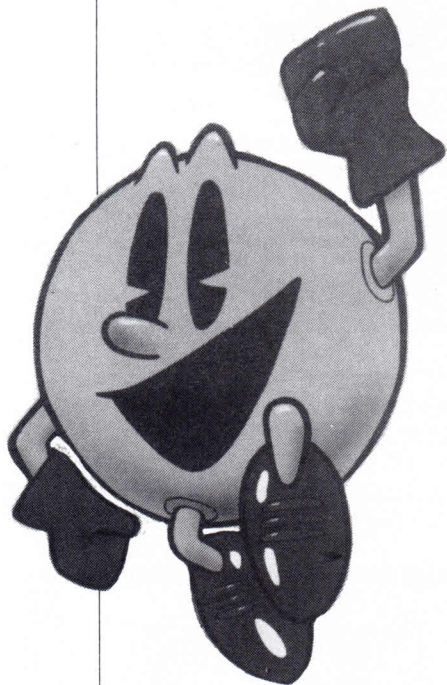


Ingrid could see Jumbo Butterpat, Silas Crawley, Mrs Underlay and a travelling saleswoman.
Interesting clatterings and smells drifted in from the kitchen to the garth. Jumbo Butterpat greeted Ingrid with a big smile and asked, "How about a nice drop of my special brew?"
Before she had time to refuse, Jumbo had already filled a mug with the seething liquid. "Have it on the house," he said with a grin. Flopsy entered from outside through the door.
What now? TAKE SCRUFFY AND DRINK IT ...

SHORT 'N' SWEET

Some new games in brief

It takes a while to give a game a thorough testing and report an opinion. On the other hand, you can get a general feel of most games quite quickly. In this new Short 'n' Sweet section, I will try to give you a brief run-down on some other games I've looked at and give you my first impressions.



PACMANIA - Pacman was one of the first characters to gain a cult following in the early home computers days. In Pacmania, he has been brought right up to date by being placed in a 3-D screen and has the ability to bounce. The theme is still the same: eat all the power pills and dots and avoid the ghosts. As most gamers are probably quite used to the old version, two new ghosts have been added to make things more difficult. Some pills come in one of two different colours: green (labelled G for green screen owners)

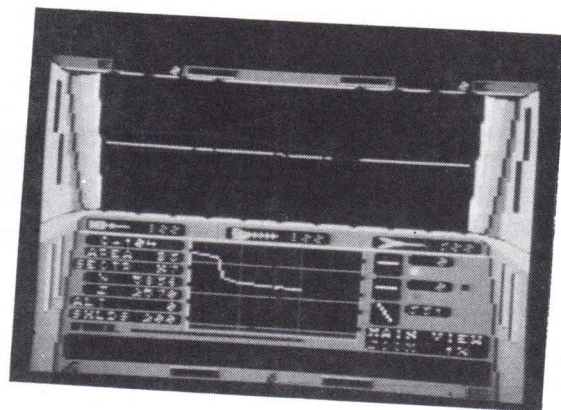
gives a short burst of speed and red gives double points. Other power pills change the colour of the ghosts so that Pacman can gobble them up. Other items appear occasionally and add to the points score. It's a snappy game with different level of difficulty for all the family.

CPC Disc - \$44.95 CPC Tape - \$29.95

GALACTIC CONQUEROR - this is almost an Afterburner clone but without the scenery. In the first phase there is some blue terrain, but this disappears when moving onto the next. I guess that, being a space game, there wouldn't be any pretty scenery anyway. Your craft is armed with a megawatt laser to destroy everything that comes in your path. To hinder you are mines and missiles hurled at you by the enemy. All very fast and furious. *CPC Disc - \$49.95 CPC Tape - \$39.95 PC - \$69.95*

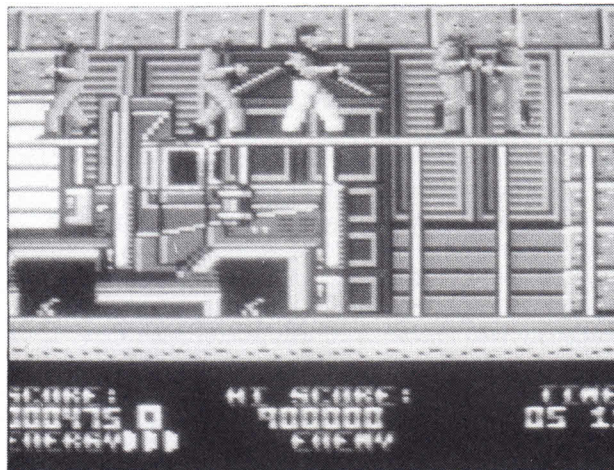
ECHELON - this is a 3-D space exploration game with combat flight simulation thrown in for good measure. One could argue that it is similar to Elite but on closer examination Elite is much better. The exploration part involves collecting objects and constructing a map to

eventually track down the Federation base (the goodies). The baddies are the pirates and the instruction manual, the latter making mention of how to run the game on a Commodore (boo, hiss) and failing to adequately tell Amstrad users how to run it on their machine. The graphics are not up to much and the radar display is worse. However, you do get a large area to explore and some training zones in which to practice. *CPC Disc - \$44.95 CPC Tape - \$29.95 PC - \$54.95*



DRAGON NINJA - comes from the 'Robocop' and 'Kung Fu Master' stable and in this game you are required to rescue the kidnapped President of the US. Dragon Ninja is the baddie who you eventually get to fight after despatching his guards and other nasties at each level. As a taste to the final conflict, each of the first six levels has a less than easy baddie to remove at the end. Along the way you can collect energy cans, time bonuses and weapons of various shapes and sizes. The graphics are excellent and this game can be recommended to Martial Arts freaks.

CPC Disc - \$44.95 CPC Tape - \$29.95



MASTERFILE III

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Just about ANY kind of information can be handled by MASTERFILE. You can EXPORT the data to other systems (eg. PROTEXT/MERGE and TASWORD). You can even merge your own USER BASIC to MASTERFILE for customised file processing, or build new files from other computer sources. The speed of SEARCH of MASTERFILE is second to none. Records can be sorted ascending/descending, character or signed numeric, even embedded keys such as surnames. Other functions are field-to-field calculations, and several-across label printing. We simply don't have room to list all the features; give us a call if you are still in doubt of the power of MASTERFILE III.

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BEYOND LOGIC

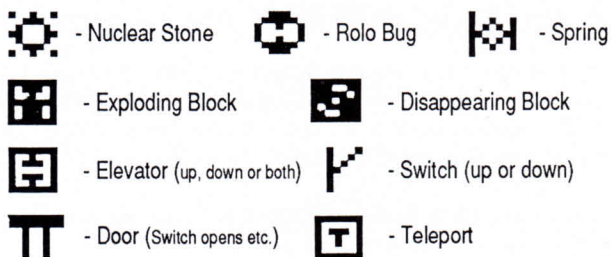


Aaron Pile and Ian Lacey have created this gem which will drive you crazy. It's *NOT* impossible!

It is the year 2758. Lost on a deserted asteroid, desperately searching for fuel, you must get through the mazes, traps and surprises, getting every nuclear stone (fuel) to ensure you can return to Earth. Good Luck!

This game, with the only drawbacks being it's extreme difficulty and very very slow pace will entertain you for hours! Here's how it works. Disappearing blocks disappear when all stones are gone. Exploding blocks explode when you move off them, but by pulling down on the joystick you can make them explode without you moving (also played on the keyboard).

Teleporters are only operational when all nuclear stones are collected. When you have collected all stones, make your way to the teleporter and you will proceed to the next level. BIG HINT: think before every move!



```

1 REM          BEYOND LOGIC
2 REM          BY AARON PILE & IAN LACEY
3 REM          THE AMSTRAD USER. MAY '89
4 REM
10 MODE 0:INK 0,0:BORDER 0
20 LOCATE 5,1:PRINT "press key for left ":mol$="":WHILE
   mol$="":mol$=INKEY$:WEND
30 LOCATE 5,1:PRINT "press key for right":mor$="":WHILE
   mor$="":mor$=INKEY$:WEND:IF mor$=mol$ THEN 30
40 LOCATE 5,1:PRINT "press key for up  ":mou$="":WHILE

```

```

   mou$="":mou$=INKEY$:WEND:IF mou$=mor$ OR mou$=mol$ THE
N 40
50 LOCATE 5,1:PRINT "press key for down ":mob$="":WHILE
   mob$="":mob$=INKEY$:WEND:IF mob$=mor$ OR mob$=mol$ OR
   mob$=mou$ THEN 50
60 LOCATE 5,1:PRINT "                    ":LOCATE 3,2:PR
   INT " press key to"
70 LOCATE 5,4:PRINT "lose a man":exit$="":WHILE exit$="
   ":exit$=INKEY$:WEND:IF exit$=mor$ OR exit$=mol$ OR exit
   $=mob$ OR exit$=mou$ THEN 70
80 LOCATE 3,4:PRINT "restart a game":quit$="":WHILE qui
   t$="":quit$=INKEY$:WEND:IF quit$=mor$ OR quit$=mol$ OR
   quit$=mob$ OR quit$=mou$ OR quit$=exit$ THEN 80
90 DIM UDC$(15):DIM SWITCH(10,4):DI:ME$=CHR$(22)+CHR$(1
   ):MO$=CHR$(22)+CHR$(0):EVERY 5 GOSUB 3110
100 KEY 139, "mode 2:ink 1,26:pen 1:ink 0,0:list "+CHR$(
   13)
110 ENV 1,100,20,1:GOTO 630
120 REM ##
130 REM ## HIGH SCORE PRINTER
140 REM ##
150 WINDOW #1,3,18,3,19
160 LOCATE 1,1:PRINT CHR$(22);CHR$(1)
170 PRINT #1,CHR$(22);CHR$(1);CHR$(12):PRINT #1," "+T5
   1$:PRINT #1," "+T52$
180 PRINT #1," "+T51$:PRINT:PRINT:PRINT #1:PRINT #1
190 PRINT #1,CHR$(15)+CHR$(8)+" NAME AND SCORE":PRINT #
   1
200 PRINT:FOR I=1 TO 5 :PRINT #1,CHR$(15)+CHR$(9+I)+" "
   +NA$(I)+" "+STRING$(5-(LEN(STR$(SC(I))))-1),"0")+MID$(ST
   R$(SC(I)),2,LEN(STR$(SC(I)))-1):NEXT
210 RESTORE 3150:EVERY 5 GOSUB 3110:EI
220 IF SCOUNT = 0 THEN in=0:GOSUB 440:FOR I= 1 TO 7000:
   A$="":A$=INKEY$:IF A$<> "" THEN HALT=REMAIN(0):DI:RETUR
   N: ELSE NEXT I:IN = 20:GOSUB 450
230 RETURN
240 REM ##
250 REM ## SCREEN PRINTER
260 REM ##
270 IN = 20:GOSUB 450
280 SWITCH=0:FOR i=1 TO 10:FOR z=1 TO 4:SWITCH(I,Z)=0:N
   EXT:NEXT
290 ON 1 GOSUB 1160,1090,1370,1230,1300,1440,1510,1570,
   1630,1690,1750
300 WINDOW #1,3,18,3,19:PRINT #1, CHR$(22);CHR$(1);CHR$(
   12)
310 NOS=0:TELE$="N"
320 FOR I=1 TO 16:READ A$:FOR Z=1 TO 16:XS$(Z,I)=MID$(A
   $,Z,1):IF XS$(Z,I)="x" THEN a=24:XS$(Z,I)="0":ELSE A=AS
   C(XS$(Z,I))-96:IF A<10 OR A>14 THEN A=VAL(XS$(Z,I))
330 IF A < 1 THEN A = 0:ELSE IF A=8 THEN NOS=NOS+1:ELSE
   IF A=24 THEN ACROSS=Z:DOWN = I:A=0:XS$(Z,I)="0":ELSE I
   F A=10 OR A=11 THEN SWITCH=SWITCH+1:IF A=10 THEN SWIM=Z

```

```

+1
340 IF A=11 THEN SWIM = I-1
350 IF A=10 OR A=11 THEN SWITCH(SWITCH,1)=SWIM:SWITCH(S
WITCH,2)=I:READ DRZ,DRI:SWITCH(SWITCH,3)=DRZ:SWITCH(SWI
TCH,4)=DRI
360 DISP$=DISP$+UDC$(A):NEXT Z:PRINT #1,CHR$(15)+CHR$(1
)+DISP$:;DISP$="":NEXT I
370 PRINT #1
380 IN = 0:GOSUB 450
390 PRINT CHR$(22);CHR$(0):GOSUB 2180
400 L=L+1:IF L=12 THEN L=1:GOTO 3230
410 GOTO 270
420 REM ##
430 REM ## BEGINING OF FADE-IN-OUT
440 REM ##
450 IF IN=0 THEN OU=24:ST=1:LOCATE 2,2:GOSUB 3070:GOSUB
3020:PRINT CHR$(22)+CHR$(1):GOTO 470:ELSE IN=24:OU=0:S
T=-1:INK 6,0:INK 7,9
460 INK 8,9:INK 9,9:INK 11,20:LOCATE 1,2:IF 1<>0 THEN I
NK 5,3
470 IF IN=0 AND ha=4 THEN ha=0:LOCATE 1,2:PEN 0:PRINT d
elline$
480 FOR I = IN TO OU STEP ST
490 IF 1=0 AND I <9 THEN INK 5,I
500 IF 1<>0 AND I <4 THEN INK 5,I
510 IF I <10 THEN INK 8,I:INK 7,I:INK 3,I:INK 9,I
520 IF I <12 THEN INK 14,I
530 IF I <15 THEN INK 4,I:INK 13,I
540 IF I <18 THEN INK 12,I
550 IF I <20 THEN INK 2,I
560 IF I <21 THEN INK 11,I
570 IF I <23 THEN INK 10,I
580 INK 1,I:FOR Z=1 TO 100:NEXT
590 NEXT I
600 IF I >5 THEN INK 6,0,9:INK 7,9,0
610 IF 1<>0 AND I >5 THEN INK 5,3,19
620 RETURN
630 REM ##
640 REM ## INITULIZATION
650 REM ##
660 SPEED INK 12,12:DIM XS$(18,18):UDC$(0)=" "
670 INK 0,0:INK 1,12:INK 2,19:INK 3,0:INK 4,14:INK 5,3,
19:INK 6,0,9:INK 7,5,0
680 INK 8,5:INK 10,24:INK 11,20:INK 12,17:INK 13,14:INK
14,11:BORDER 0:MODE 0
690 PRINT CHR$(22);CHR$(1):CLS:SYMBOL AFTER 1
700 FOR A=130 TO 159:READ B,C,D,E,F,G,H,I:SYMBOL A,B,C
,D,E,F,G,H,I:NEXT A
710 DATA 136,144,160,192,128,128,128,0,128,128,128,248,
128,128,128,0,128,128
720 DATA 128,192,160,144,136,0,255,36,36,36,36,36,36,0,
255,129,66,36,66,129,0,0
730 DATA 255,255,0,0,0,0,0,0,128,146,170,198,170,146,12
8,0,128,168,168,216,168
740 DATA 168,128,0,128,224,224,224,224,224,128,0,254,13
0,130,130,130,130,254
750 DATA 0,0,0,56,56,56,0,0,0,0,0,56,16,16,0,0,0,16,5
6,0,0,0,0,0,0,56
760 DATA 16,0,0,0,56,68,68,68,56,0,0,16,130,0,0,0,130,1
6,0,0,124,124,124,124
770 DATA 124,0,0,0,96,112,40,28,12,0,0,0,56,16,124,124,
56,0,0,0,4,8,16,32,64,0
780 DATA 0,68,0,0,130,0,0,68,0,34,18,10,6,2,2,0,2,2,2
,62,2,2,2,0,2,2,2,6,10
790 DATA 18,34,0,2,146,170,198,170,146,2,0,2,42,42,54,4
2,42,2,0,2,14,14,14,14
800 DATA 14,2,0,124,16,40,68,40,16,254,0,0,0,124,16,108
,16,254,0,0,0,0,124
810 DATA 124,254,0
820 SYMBOL 255,255,255,255,255,255,255,255
830 DELLINE$=" ":FOR I=1 TO 16:DELLINE$=DELLINE$+CHR$(
255):NEXT
840 C$=CHR$(8)+CHR$(15):CP$=CHR$(15)+CHR$(1)+CHR$(139)+
C$
850 DEL$=CHR$(15)+CHR$(0)+CHR$(255)+CHR$(8)+CHR$(15)+CH
R$(1)+"-"
860 UDC$(6)=CP$+CHR$(8)+CHR$(141):UDC$(5)=CHR$(15)+CHR$(
9)+CHR$(139)+C$+CHR$(11)+CHR$(147)+C$+CHR$(9)+CHR$(149
)
870 UDC$(1)=CP$+CHR$(1)+CHR$(140):UDC$(7)=CP$+CHR$(2)+C
HR$(148)
880 UDC$(3)=CP$+C$+CHR$(2)+CHR$(146)+C$+CHR$(5):UDC$(4)
=UDC$(3)+CHR$(143)
890 UDC$(2)=UDC$(4)+CHR$(8)+CHR$(142):UDC$(3)=UDC$(3)+C
HR$(142)
900 UDC$(8)=CHR$(15)+CHR$(3)+CHR$(144)+C$+CHR$(7)+CHR$(
145)+C$+CHR$(6)+CHR$(150)
910 FOR I=1 TO 3:LSW$(I)=CHR$(15)+CHR$(2)+CHR$(129+I):L
S$(I)=CHR$(15)+CHR$(14)+CHR$(135+I):DR$(I)=CHR$(15)+CHR
$(1)+CHR$(132+I):NEXT I:LSW$(4)=CHR$(15)+CHR$(2)+CHR$(1
31):LSW$(5)=CHR$(15)+CHR$(2)+CHR$(130):LS$(4)=CHR$(15)+
CHR$(14)+CHR$(137)
920 LS$(5)=CHR$(15)+CHR$(14)+CHR$(136):UDC$(10)=LSW$(1)
:UDC$(12)=LS$(1):UDC$(9)=DR$(1)
930 DR$(4)=" ":FOR I=1 TO 3:RSW$(I)=CHR$(15)+CHR$(2)+CH
R$(150+I):RS$(I)=CHR$(15)+CHR$(14)+CHR$(153+I):US$(I)=C
HR$(15)+CHR$(14)+CHR$(156+I):NEXT I:RSW$(4)=CHR$(15)+CH
R$(2)+CHR$(152):RSW$(5)=CHR$(15)+CHR$(2)+CHR$(151)
940 RS$(4)=CHR$(15)+CHR$(14)+CHR$(155):RS$(5)=CHR$(15)+
CHR$(14)+CHR$(154)
950 US$(4)=CHR$(15)+CHR$(14)+CHR$(158):US$(5)=CHR$(15)+
CHR$(14)+CHR$(157):UDC$(11)=RSW$(1):UDC$(13)=RS$(1):UDC
$(14)=US$(1)
960 FOR I=1 TO 4:BBR$(I)=CHR$(15)+CHR$(1)+CHR$(34+I):NE
XT:BBR$(5)=CHR$(15)+CHR$(0)+CHR$(255)
970 B$=CHR$(15)+CHR$(15)+CHR$(139)+CHR$(8)+CHR$(140):B3

```

CPC TYPE-IN

```

$=CHR$(15)+CHR$(1)+CHR$(139)+CHR$(8)+CHR$(140)
980 GOSUB 1910
990 REM ##
1000 REM ## border
1010 REM ##
1020 INK 15,0:PEN 15:FOR i=1 TO 20:b1$=b1$+B$:NEXT
1030 FOR I=1 TO 10:T51$=T51$+B3$:NEXT:T51$=" "+T51$
1040 T52$=" "+B3$+CHR$(15)+CHR$(8)+"TOP FIVE"+B3$:LOCAT
E 1,1:PRINT b1$:LOCATE 1,24:PRINT b1$
1050 LOCATE 1,20:PRINT b1$:PRINT b1$:B$=B$+"
      "+B$
1060 FOR I= 1 TO 23:LOCATE 1,I:PRINT B$;NEXT I:INK 15,
24:INK 3,0
1070 GOTO 2770
1080 REM ##
1090 REM ## TRAIL SCREEN 1
1100 REM ##
1110 RESTORE 1130
1120 RETURN
1130 DATA 1111111111111111,1110x00000000001,1110101111
11111,1100000000000001,1101121111111111,10001010400011
1,1010100001180111,1008101100100111
1140 DATA 1001101000010111,1000101032110111,18100000100
00111,1008001311112111,1151000000000111,110033511171111
1,1106111111111111,1111111111111111
1150 REM ##
1160 REM ## TRIAL SCREEN 2
1170 REM ##
1180 RESTORE 1200
1190 RETURN
1200 DATA 1111111111111111,110x011111111111,10010800000
00111,1011111111110111,1000010000010111,111121211000011
1,1000000010010111,1001010853110111
1210 DATA 1100101211110111,1120000010000111,11121110000
00111,1111111111112111,1000000000000111,161111111111111
1,1111111111111111,1111111111111111
1220 REM ##
1230 REM ## TRAIL SCREEN 3
1240 REM ##
1250 RESTORE 1270
1260 RETURN
1270 DATA 1111111111111111,110x00000000m11,1111010111
11111,111198000000k11,12,13,11900m0111121111,110120000
0001111,1101111411000111,110101j000800111,5,4
1280 DATA 1101010011100111,1101010011110111,11010005000
00111,1101n17711110111,1101111600093k11,3,5,1100000000m
55111,11n111111111111,1111111111111111
1290 REM ##
1300 REM ## TRIAL SCREEN 4
1310 REM ##
1320 RESTORE 1340
1330 RETURN
1340 DATA 1111111111111111,1000110000010k11,9,14,101011
8111010111,1010012011010111,1010000001010001,101j011201
000101,14,15,1011200000012101,10x0182111201101
1350 DATA 1010000001108101,1011180100010001,10111311210
10111,1000011100000001,1211001111211101,111110500801j00
1,14,15,1111110911111031,1111116111111111
1360 REM ##
1370 REM ## TRAIL SCREEN 5
1380 REM ##
1390 RESTORE 1410
1400 RETURN
1410 DATA 1111111111111111,11000000000000011,110800000x0
00011,1101111111018011,1100000001011011,110000010100101
1,1112020100000011,1100800101218011
1420 DATA 1102102101110011,1101111100000011,11000001011
11111,11082111211000m1,1121111101161011,11111000000000m
1,111111111111n11,1111111111111111
1430 REM ##
1440 REM ## TRIAL ROOM 6
1450 REM ##
1460 RESTORE 1480
1470 RETURN
1480 DATA 1111111111111111,1100011110911111,11010000000
11111,1101800000011111,1101111111201111,110100000080011
1,1101800101110111,1101100101100111
1490 DATA 1100021100100011,1101110000006011,11000101220
81011,1101000121121011,1x00112811000011,11200000000k121
1,11,2,1111111111211111,1111111111111111
1500 REM ##
1510 REM ## trial sreen 7
1520 REM ##
1530 RESTORE 1550
1540 RETURN
1550 DATA 1111111111111111,11111000000000m1,1x000000001
01001,1117101017801301,1110001011101001,111008101110102
1,10000010110010k1,12,11,1012711011021211
1560 DATA 1001110010011111,1100000010210081,111111j2801
90k11,10,13,9,13,110000m112102j01,13,13,1j0110009900900
1,7,15,1100801111120001,1131529000001521,111111111161111
11
1570 REM ##
1580 REM ## trail screen 8
1590 REM ##
1600 RESTORE 1610:RETURN
1610 DATA 1111111111111111,1018000000000801,1x011010018
00101,110000m101117001,111003110000000m,10811011100013
1,10711000000000m1,10001110000110k1,11,15
1620 DATA 1300080700790011,1131111112111211,1111j000000
00111,6,12,11111917101100k1,14,13,110000k018013911,12,9
,10077100m3001811,1877700318900001,111111n111111161
1630 REM
1640 REM TRAIL SCREEN 9
1650 REM
1660 RESTORE 1670:RETURN

```

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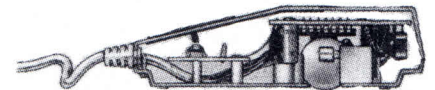
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DECIPHERING PSEUDOCODE

Continuing his discussion on algorithms, Gary Koh this month delves deeper into pseudocode and flowcharts, explaining the use of various constructs and problem solving techniques.

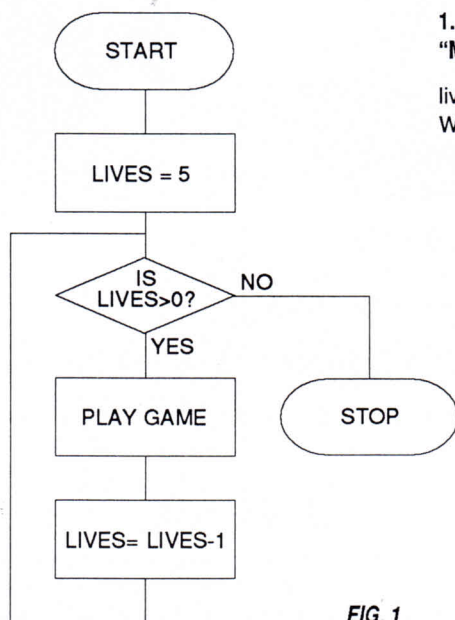


FIG. 1

1. EXAMPLE OF WHILE: "MAIN LOOP OF A GAME"

```

lives=5
While lives>0 Do
  Begin
    play game
    lives=lives-1
  End
  
```

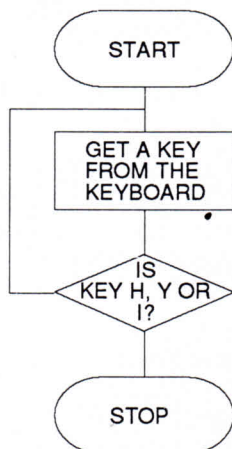


FIG. 2

2. EXAMPLE OF REPEAT-UNTIL: "WAIT UNTIL A CERTAIN KEY IS PRESSED"

```

Repeat
  get a key from the keyboard
until key is either H, Y or I
  
```

As I said last month, there are three types of control constructs: selection, iteration and sequence. The sequence is the simplest of the three and simply means that the individual commands are executed one after the other. A sequence of commands in Basic like LOCATE 12,24:PEN 3:PRINT "Score:" is an example of a sequence.

The other two types of control constructs are much more complicated and involved. A lot of this is very similar to Basic and so we will not be going too much into the minute details. Iteration, or looping as most people will know it as, is the repeated execution of a section of code. Selection is making a kind of decision based on a condition. Basic's If-Then-Else is an example of selection and For-Next is an example of iteration. What all these things do is to change the program flow. With the other types of instructions on their own you would not be able to do much but when you add in control constructs you can do almost anything you want.

There are three types of iteration constructs. The first two are the While and the Repeat-until. The While is shown almost the same as Basic's but there is no Wend. The statements to be executed by the While are bounded together by Begin and End. Repeat-until is the same as While except that the conditions to be tested for are at the end of the loop, while with While it is at the front of the loop. For instance, if you had a While loop you would say While scy=8 but with a Repeat-until loop you would say Repeat.....until scy<>8. To change between them you have to reverse things.

If this is beginning to look suspiciously like Pascal it's because it is. Pascal just happens to be a language that is based a lot on structured programming, just like algorithms, so there tends to be a lot of overlap between the two.

One thing with the While loop is that before you jump into it you have to "prime" the variables being

tested. Priming is setting the value of the variables being tested to a value that differs from the one that the While is looking for beforehand. This prevents spurious variable values from making the While go haywire. Pseudocode examples 1 and 2 are examples of While and Repeat-until. Figures 1 and 2 give flowchart examples of these two iteration constructs.

The last iteration construct, For-next-step is almost exactly the same as in Basic so there is not much to say about it. This sort of loop can be defined in terms of the other two types of repetition. This is important since with flowcharts you cannot put in a For-next explicitly, you have to define it in terms of the other types of repetition. Pseudocode listings 3 and 4 show firstly a normal For-next and a For-next defined in terms of a While. Figure 3 gives the flowchart example of the For-next defined in terms of a While.

The last type of construct, selection just involves making the decisions within the algorithm or selecting alternative courses of action. The main selection construct is the If-Then-Else which acts exactly the same as in Basic. Incidentally, Goto can be considered a selection construct but since there are supposed to be no Gotos in structured programming this gets chucked out into limbo. Since If-Then-Else will be so familiar to you I will not be providing any pseudocode examples but I will give you an example in Flowchart form in figure 4.

The other main type of selection construct that will be unfamiliar to you (unless you are a Pascal user) is something called Case of. This can best be described as something like a beefed up On gosub. This is best explained by showing a pseudocode example first (example 5).

It acts something like several If-Then statements at once. It combines the flexibility of If-Then and the whole-scale selecting capability of On gosub. Figure 5 gives a flowchart example of Case of. In

3. NORMAL FOR-NEXT

```
For count=1 To 50 Step 2 Do
  Begin
    Print count
  End
```

4. ABNORMAL FOR-NEXT

```
count=1
While count<=50 Do
  Begin
    Print count
    count=count+2
  End
```

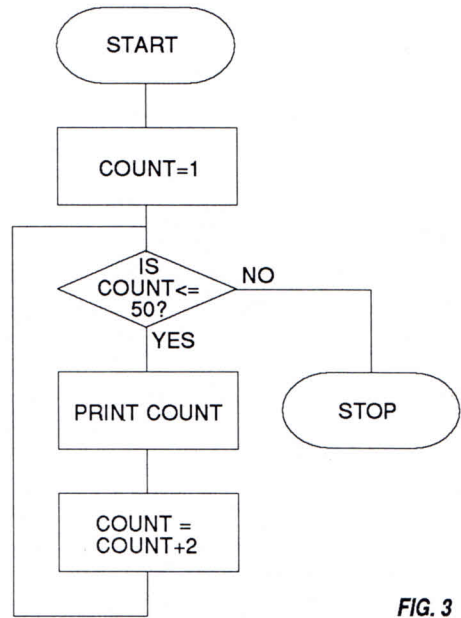


FIG. 3

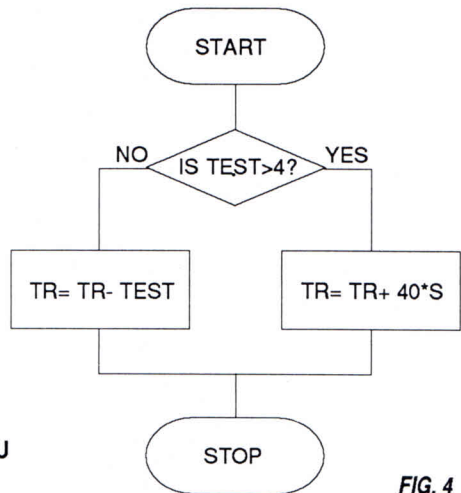


FIG. 4

5. THE MYSTERIOUS CASE OF A MENU SELECTION

```
While key is not S, L, O, A, D, E, N, P, F,
  Do Get key from keyboard
  Case of
    Begin
      key is S: Do Save database
      key is L: Do Load database
      key is O: Do Sort database into
        alphabetical order
      key is A: Do Add new record
      key is D: Do Display records to
        screen
      key is E: Do Erase record
      key is N: Do Name record fields
      key is P: Do Print records onto
        printer
      key is F: Do Find a record
    End
```

6. SWITCHING ON A LIGHT SWITCH

```

If light is already on Or there is no light
Or there is a power strike
  Then do not continue
  counter=1
While light is not on And counter<10 Do
  Begin
    Search for a switch
    Flick switch
    counter=counter+1
  End
If counter=>10 then TooManySwitches=
true else TooManySwitches=false
    
```

practice though you will find it is not normally used.

Before you start to get bored with all this I had better show you what an algorithm ought to look like. The listing in fig. 6 gives you an algorithm for "switching on a light". As we are running out of space here with so many flowcharts floating around, the flowchart of this algorithm will appear next month.

The first thing that strikes you about this algorithm is that it is very complex for an apparently simple task. This is due to the fact that computers are incredibly stupid things and presumably this algorithm is supposed to be run by a computer. Most of the things covered by this algorithm are one in a billion chance things which are not really needed. The only problem is if you leave these bits out those one in a billion things happen to conveniently crop up and make you wish that you had put these bits in, in the first place.

Just imagine for the moment you had to develop the super complex algorithms needed by the SDI (Star Wars) program. If even one little thing was wrong in the algorithm the whole thing will go haywire and you will not be alive long enough to regret it. Algorithms for serious use have to be as bombproof as possible. There are times though when it is better to let the algorithm make some assumptions and not to test everything.

The first part of this algorithm, the If, weeds out impossible conditions to make sure you don't try to flick a switch when there is no need to or you can't. The While loop keeps on chugging away until either the light is on or you have pressed too many switches. The last If does not really need to be there but is put there anyway in case the algorithm wants to know if too many switches were pressed.

The variable that is used to flag or act as a status indicator, TooManyPressed, is what is technically known as a boolean variable. A boolean variable can have one of two states and is used to indicate something. These two states are called true or false, 1 or 0, yes or no and whatever else you can think of. They are used as status indicators, to indicate whether something went wrong within the algorithm or to indicate if an action was completed.

And on that note I leave you for another month. Ciao!

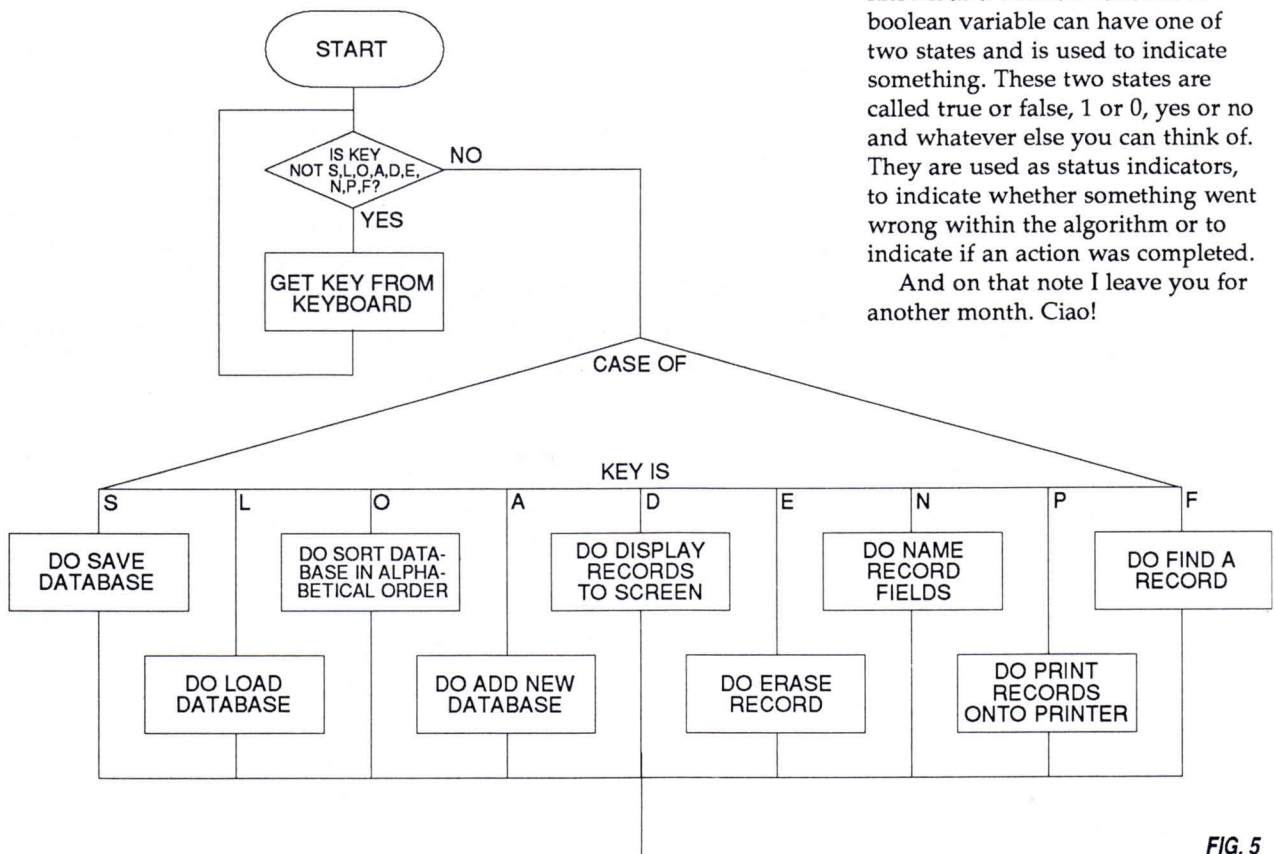


FIG. 5

One of the more established computers on the microcomputer market is the Acorn Computers' BBC Microcomputer. Due to its age, the BBC has had a large number of programs written for it despite being superseded by more powerful computers eg: the Amstrad. One of the principal uses for the BBC in Australia is in Education where it is used in primary and secondary schools. The majority of BBC programs of interest to CPC users are those written in BBC Basic.

Locomotive Basic is more powerful than BBC Basic in many respects. A large number of commands CPC owners frequently use in their programs eg. INK, SPEED INK, SPEED KEY, ORIGIN etc are only possible on the BBC with the use of *FX or VDU calls. During my experience with BBC Basic I have compiled a conversion chart for converting BBC Basic programs into Locomotive Basic.

The BBC micro has 8 screen modes ranging from MODE 0 (a high-resolution 2-colour mode) to MODE 7 (a unique teletext character compatible mode). The reader should note that not all of these modes support graphics.

A point that often crops up when converting programs from other computers is that of co-ordinate conversion. The BBC's graphics are addressed on a standard x,y format with x ranging from 0-1279 and y from 0-1023. To allow for this the x co-ordinate should be divided by 2 and the y co-ordinate by 2.6. BBC Text commands are similar to those on the Amstrad except for the fact that the text origin is at (0,0). The x and y co-ordinates must be incremented by 1 to allow for this.

A large number of BBC commands are implemented using the *FX and VDU calls. The *FX calls tend to be of the synchronisation and hardware type whereas the VDU 'calls' are merely a means of printing character below Ascii 32 to the screen (these are known as control characters). A brief table of the most common *FX calls and the VDU calls is given in the conversion table.

FROM BBC TO LOCO BASIC

With a few changes, the large selection of BBC BASIC programs floating around schools and elsewhere can be accessible to Locomotive BASIC users. Chris Wooton takes up the challenge...

The BBC micro has a maximum of 16 colours from a palette of 16 (8 constant, 8 flashing) whereas the Amstrad has a virtual 702 colours (27 constant, 675 flashing. For instance colour 15 might be flashing green-red. This translates to INK 15,9,3. The COLOUR command is used on the BBC as a PEN and PAPER command in one. COLOUR n , where n is less than 128, is equivalent to PEN n whereas COLOUR n, where n is above 127, is equivalent to PAPER n-128.

The biggest problem in converting BBC programs probably lies in

1000 assuming that PROCprint starts at line 1000. Functions are identical to procedures except that they return a value. The other structuring command, REPEAT...UNTIL can be translated into a WHILE...WEND loop with a simple inversion of the condition (using NOT).

The BBC also possesses two logical variables TRUE and FALSE which are equal to -1 and 0 respectively. TRUE is returned by true statements like 5=5 and FALSE by untrue (false) statements, eg: 5=6.

Trigonometric functions like SIN, COS, TAN, ATN (arc-tangent),

MODE	RESOLUTION	NO.OF COLOURS	CLOSEST CPC MODE
0	640 x 256	2	2
1	320 x 256	4	1
2	160 x 256	16	0
3	text only	2	2
4	320 x 256	2	1
5	160 x 256	4	0
6	text only	2	1
7	teletext	teletext	1

the program structure. BBC Basic has more advanced structuring commands than Locomotive eg. PROCe-dures and multi-statement functions. The closest way to simulate procedures in Locomotive Basic is to set up the variables and then GOSUB to the routine eg: PROCprint (5,10) would translate to x=5;y=10:gosub

ASN (arc-sine) and ACS (arc-cosine) always operate in radians mode. Two functions DEG(n) and RAD (n) are provided to convert degrees into radians for this purpose and back again. DEG can be deleted when it is used in the following manner:

xco=COS (DEG(angle)) provided that the computer is already in

DEGrees mode.

To finish off with, sequential access (normal) files are handled by the BBC through a file number which is returned through the appropriate OPENOUT or OPENIN statement eg:
 fileno=OPENOUT("Newfile"). The part to the left of and including the equals sign can be deleted and all

references to PRINT #fileno can be translated to PRINT #9. Inversely, for files that have been OPENINED will be read by an INPUT #fileno statement and this translates also to INPUT #9.

The biggest problem in terms of compatibility lies with the machine-specific parts of BBC programs.

These are: assembler instructions, operating system calls, memory, input/output mapping and disc-handling. The easiest way to convert these programs (if they are worth the time) is to use the old method of working out exactly what that instruction does and finding the nearest CPC Basic equivalent.

THE GUIDE BY YOUR SIDE:

BBC BASIC COMMAND

*FX9,a:*FX10,b
 *FX11,a:*FX 12,b
 COLOUR n (n<128)
 COLOUR n (n>127)
 DEG(n)
 x DIV y
 DRAW x,y
 EOF #n
 x EOR y
 FALSE
 GCOL a,b (a>0)

GCOL O,b

LN(n)
 LOG(n)
 MOVE x,y
 x=OPENIN(a\$)
 x=OPENOUT(a\$)
 PLOT 4,a,b
 PLOT 5,a,b
 PLOT 69,a,b
 POINT(x,y)
 POS
 PRINT #n,a\$
 RAD(n)

CPC EQUIVALENT

SPEED INK a,b
 SPEED KEY a,b
 PEN n
 PAPER n-128
 n*180/PI
 x/y
 DRAW x/2,y/2.6
 EOF
 x XOR y
 O
 PRINT CHR\$(23)CHR\$(4-a)::
 GRAPHICS PEN b
 PRINT CHR\$(23)CHR\$(0)::
 GRAPHICS PEN b
 LOG(n)
 LOG10(n)
 MOVE x/2,y/2.6
 OPENIN a\$
 OPENOUT a\$
 MOVE a/2,b/2.6
 DRAW a/2,b/2.6
 PLOT a/2,b/2.6
 TEST(x/2,y/2.6)
 POS(#0)-1
 PRINT #9,a\$
 n/180*PI

BBC BASIC COMMAND

REPEAT...UNTIL a\$
 RND(n) (n>1)
 TAB(n)
 TRUE
 PRINT TAB(x,y);a\$
 INPUT TAB(x,y);a\$
 VPOS
 VDU 1,n
 VDU 4
 VDU 5
 VDU16
 VDU 17,n (n<128)
 VDU 18,a,b (a>0)

VDU 18,0,b
 VDU 19,a,b,c,d,e
 VDU 22,n
 VDU 23,a,b,c,d,e,f,g,h,i
 VDU 24,a,b;c;d;
 VDU 25,a,b;c;
 VDU 28,a,b,c,d
 VDU 29,x;y;
 VDU 31,x,y
 VDU 127

CPC EQUIVALENT

WHILE NOT a\$.....WEND
 INT(RND*n+1)
 TAB(n+1)
 -1
 LOCATE x,y:PRINT a\$
 LOCATE x,y:INPUT a\$
 VPOS(#0)-1
 PRINT #8,CHR\$(n)
 TAGOFF
 TAG
 CLG
 PEN n
 PRINT CHR\$(23)CHR\$(4-a)::
 GRAPHICS PEN b
 PRINT CHR\$(23)CHR\$(0)::
 GRAPHICS PEN b
 INK a,b
 MODE n (see mode chart)
 SYMBOL a,b,c,d,e,f,g,h,i
 ORIGIN 0,0,a/2,c/2,b/2.6,d/2.6
 SEE PLOT a,b,c
 WINDOW a+1,c+1, d+1,b+1
 ORIGIN x/2,y/2.6
 LOCATE x+1,y+1
 PRINT CHR\$(8)CHR\$(16);

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If you want to run some of your old CPC464 software on your 6128, a few programs will not load because the disk ROM takes up an extra 1.25k. The following program releases this block of RAM and re-boots the system. Another problem which may arise when trying to run CPC464 programs on the 6128 is that various software houses have written programs that access routines in firmware directly, instead of via the jump block tables as recommended by Amstrad. There is little that can be done about this without actually accessing the source code.

```
30 MEMORY &9FFF:A=A000
40 read D$
50 WHILE D$<>"@"
60 POKE A,VAL("&"+D$):A+A+1:READ D$
70 WEND
80 CALL &A000
90 DATA
21,08,A0,0E,00,CD,16,BD,3E,C9,32,CB,BC,C3,06,C0,@
```

READING A CHARACTER FROM AN AMSTRAD SCREEN

There is no facility provided directly from Basic on the Amstrad to test a location on the screen and return the value of the character found there; such a facility is available to test pixels on the graphic screen and return the ink colour of a particular pixel. There is however, a machine code CALL to do this within the operating system, which is presumably used by the COPY cursor. To make use of this routine from Basic, a seven-byte machine code routine is needed. A good place to locate this is within the first user-defined graphic position, which always starts one-byte above HIMEM so can be easily located.

The technique used is to write in the routine using the SYMBOL command, ensuring that the number used is the same for the SYMBOL AFTER command which sets up the table of characters. The first byte of the SYMBOL character is used to store the character which is read in from the screen. Some juggling is needed to get the address of this byte into the code; lines 30 and 40 of the program do this.

To use the SYMBOL 200 here is quite arbitrary. If you are not defining any characters for your program, you could make it SYMBOL AFTER 255 to economise the memory.

To use the routine, LOCATE to the position you want to test, CALL HIMEM+2, then PRINT PEEK(HIMEM+ 1) which yields the character number found. PRINT CHR\$(PEEK(HIMEM+1)) will print out the actual character.

```
10 SYMBOL AFTER 200
20 SYMBOL 200,0,&CD,&60,&BB,&32,0,0,&C9
30 X1=INT(HIMEM+1)/256:X2=HIMEM+1-256*X1
40 POKE HIMEM+6,X2:POKE HIMEM+7,X1
```

LOCATOR

Are you one of those inquisitive people who has to know everything about the inner workings of your computer? Then this program is just for you. Firstly, the program

I BET YOU DIDN'T KNOW

Gavan Cain from Boorcan in Victoria is a real Tricky Dickie when it comes to CPC peeks and pokes. Here are a few beauties...

looks at the memory and remembers all the locations. It then asks for a Basic instruction such as PRINT "HI" or any other command you may choose. After comparing the previous memory locations to the new memory locations it then lists all the changes.

This is a big asset to the programmer who uses machine language routines in his Basic programs. For example, if you are writing a high speed graphics program in machine language, you can find the locations of the variables wanted so you can process information. Or, the machine code program could find the best move on a checkers board.

```
10 REM ### FIND ###
20 ' GAVAN CAIN NOV '88
30 '
40 DEFINT A-Z
50 DIM A(&1000)
60 CLS
70 'SEARCHES FROM &B000 TO &C000
80 FOR I=&B000 TO &C000
90 A(I-&B000)=PEEK(I)
100 NEXT I
110 FOR I=&B000 TO &C000
120 IF A=(I-&B000)<>PEEK(I) THEN A(I-&B000)=999
130 NEXT I
140 FOR I=&B000 TO C000
150 IF A(I-&B000)<>PEEK(I) AND A (I-&B000)<>999 THEN A(I-&B000)=999
160 NEXT I
170 FOR I=&B000 TO &C000
180 IF A(I-&B000)<>PEEK(I) AND A(I-&B000)<>999 THEN A(I-&B000)=999
190 NEXT I
200 '
210 ' INSERT THE BASIC COMMAND HERE
220 INK 1,15
230 '
240 FOR I=&B000 to &C000
250 IF A(I-&B000)<>PEEK(I) AND A(I-&B000)<>999 THEN PRINT I,A(I-&B000),PEEK(I)
260 NEXT I
270 PRINT"location          was          is now"
```

HOT TIPS

LOCK

Imagine you've just left the room and gone down to the shops for a minute. Your little brother sees you leave and thinks "uh huh...this is my chance". You get back and sit down ready to run a program when you catalog. Your heart sinks as you see all your programs changed and rearranged. No more Mr. Nice Guy. You'll get him back.

This small program can be used to protect any or all of your programs. If you run the program, it can either print a statement as 'I am on strike...' or simply 'Ready'. Your little brother trying to break into your programs then gets the impression that nothing has happened. However as he will soon see, all functions and commands are disabled. The only possible way of getting out is a cold boot, or if you know the password, this lets you gain access to the program involved.

The password in this example is 'AMSTRAD'. Once past the password, the program then redefines the function keys in (ENTER) and (.) This enables you to press (ENTER) number, and the user catalog appears. If you press (.) it changes the colours and graphics back to the Basic colours stated at the start of the program and

lists the catalog. Revenge is sweet. Peeking through the keyhole, you see your little brother sweating it out at the computer, having no luck at all. No need to worry now!

```

10 REM ### LOCK ###
20 REM ' GAVAN CAIN, MAY '89
30 '
40 ON BREAK GOSUB 160
50 PRINT"I AM ON STRIKE!": PRINT"Ready"
70 GOTO 180
80 '
90 ' THIS SECTION CHANGES THE [ENTER] AND [.] KEYS
100 R$=CHR$(13):L$=CHR$(124)
110 KEY 139,R$+CHR$(124)+ "USER,"
120 KEY 138,R$+"MODE 2:CAT:PAPER 0:PEN 1:INK
1,0:INK 0,13:BORDER10"+R$
130 NEW
140 '
150 ' HERE WE HAVE A TYPICAL SIMULATION...
160 ON BREAK GOSUB 160
170 PRINT""BREAK""
180 LINE INPUT"",A$
190 IF A$="AMSTRAD" THEN 100
200 GOTO 180
    
```

ER + REMINDER + REMINDER + REMI

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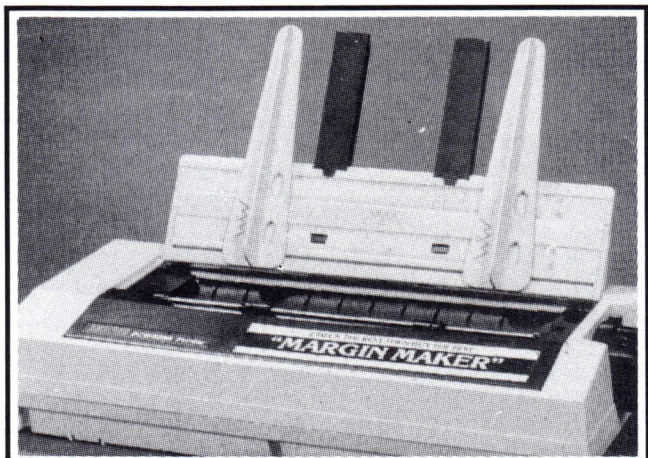
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AMSDOS, the disc operating system that we work with in Locomotive BASIC, is strangely limited. The first design priority seems to have been compatibility with the tape system - the assumption being that if you really wanted to do anything fancy you would be working with CP/M anyway. Thus we can only have two files open at once, one for input and one for output - nor is there any facility for random access to data within a file on a disc. In fact AMSDOS has been described as nothing more than a very high speed cassette system. None the less, with a little cheating here and there you can actually make it do almost anything you want. In particular it is only a little slower than the DOS on the BBC, while being as reliable as pre-historic old clunkers like the Apple II and the (gags slightly) Commodore C64. This combination of speed and reliability is very nice - it is not bettered by computers costing six times as much as a CPC - and makes up for the deficiencies of AMSDOS in many other respects.

What's all this got to do with structured programming? Nothing really, but this month we are going to add the routines that enable our database program to "talk" to the disc operating system, to save and load files, change drives (if you have more than one), and catalogue discs. These functions constitute the interface (good word) between AMSDOS and our program.

There are actually two versions of AMSDOS, the early model as supplied with the DDI for the CPC464 and the revision that appears on the CPC664/6128. In the interests of "portability" (another good word!) we are sticking to stuff that will work on the former - CPC6128 owners who are not worried about what they write transferring to a CPC464 can probably improve on some of the following routines especially using the DERR function.

MEMORY BUFFER

In fact this first line is only necessary for CPC464+DDI owners - it sets aside a permanent memory buffer of 4k for data reads and writes to disc. Without it a CPC464 will set up a fresh buffer every time it looks at a disc - this can take several minutes if the memory is full of string data! The CPC664/6128 uses a fixed buffer without being told - if you own one of these and are not worried about portability just ignore this line altogether.

```
5 OPENOUT "dummy":MEMORY HIMEM-1:CLOSEOUT
```

This **MUST** be the first (single) line executed (even before a GOSUB or GOTO command). This is NOT me being pedantic (for once), it just doesn't produce the desired effect anywhere else! Hence we have put it at the very beginning of the program (in the area normally reserved for introductory REMs) instead of in the initialisation section where it logically belongs. It does not, as you might suppose, put an empty file onto the disc, although the drive will buzz briefly.

AMSDOS AND FILE HANDLING

This month, Paul Gerard adds the routines that will enable the database to communicate with the disc operating system.

NEW LINE 40 (MAIN ON N GOSUB)

Next comes our new line 40. You will notice that I have put temporary dummy values for line 20 to cover functions that have not yet been programmed. This is actually NOT very good practice, better would have been to insert "stub" routines (see the article before last). Repeated calling of non-existent menu options will in fact now produce the effect of a technique known as "recursion" (a routine calling itself). Recursion in BASIC is a tricky business, best avoided unless we know exactly what we are doing. We'll have a look at it next time, incidentally.

```
40 ON choice GOSUB 3000,4000,5000,6000,80,3100,3200,
3300,3400,3500,20,20,20,20,20,7000,20,20,20,20
```

NEW VARIABLES

Finally, before we actually get down to our new routines some new variables that they will be using must be defined. (Only the lines that are new or need changing in our old program are included here.)

```
13110 DIM menu$(22)
13130 FOR i=1 TO 22:READ menu$(i):NEXT ' Menu opt
ions
13210 DIM heading$(10)
13230 FOR i=1 TO 10:READ heading$(i):NEXT 'Heading val
ues
13340 file.test$=file.iden$
40115 DATA "Edit record","Display file","Find record",
Search file","Calculations","Save file","Abandon this f
ile","Select drive A","Select drive B","Select drive C"
,"Return to main menu"
40130 DATA 5,4,8,4
40150 DATA 1,6,10,18
40210 DATA "Main Menu","New Data File","Defined data fi
le","Old Data File","Catalogue","Name File","How Many F
ields ?","Name Fields","Current Record","Save File","Ch
ange drive"
```

THE "SAVE FILE" ROUTINE

The first of our routines saves our data to a disc file. It gives us the opportunity of changing the file name (useful if we want to avoid overwriting an old version of the file, for instance), and then simply puts our data into an ASCII file on the disc. If you want to check that the routine is working at this stage you can look at the file with your word processor, or get CP/M to TYPE it out for you. We will be able to test it properly once the routine for displaying data on the screen is in (next month).

```

7000 ' Save data to file
7010 GOSUB 7100          ' Get/confirm file name
7020 GOSUB 7200          ' Save file
7030 RETURN
7100 ' Get confirm file name
7110 CLS:head=10:GOSUB 100 ' Heading routine
7120 LOCATE 4,12:PRINT"Confirm file name "::$PEN 3:PRINT
    file.name$::~PEN 1:PRINT" ?"
7130 GOSUB 500          ' Yes/no
7140 IF yes THEN RETURN
7150 GOSUB 3100         ' New file name
7160 GOSUB 7100         ' Confirm new name
7190 RETURN
7200 ' Save file
7210 MID$(file.iden$,1,12)=file.name$+file.extn$
7220 OPENOUT file.iden$
7230 WRITE#9,fields,longest.records,record
7240 FOR i=0 TO fields-1
7250     FOR j=0 TO record-1
7260         WRITE#9,file.data$(I,J)
7270     NEXT
7280 NEXT
7290 CLOSEOUT:RETURN

```

"LOAD OLD FILE" ROUTINE

The next routine reloads a saved file back into memory. The complication is that we want to avoid the unrecoverable crash that will occur (at least in CPC464 AMSDOS) if we try to access a file that is on another disc, or even simply spell the file name incorrectly. There are some fancy ways of doing this that access the directory area on a disc directly - using straight BASIC we can however get a similar effect using the |DIR command and, interestingly, the position of an (invisible) cursor as reflected by the VPOS function. This routine will even display the files on a disc in an appropriate screen mode, depending on how many there are! It would be nice to display the files as options in a menu - this is possible, in fact really advanced people might like to have a go at it.

One note: in line 4520 I call PART of a subroutine. This is normally very bad practice, in fact it produces a kind of "spaghetti" and is the very antithesis of structured programming. What I should really have done

was to split subroutine 3100 so that the section required could be called as a separate routine. In this case the effect is fairly clear and we save the bother of re-writing old code but it is something to watch in your own programming - a GOSUB should ALWAYS refer to the first line in a sub-routine! Incidentally line 3180 now needs a word removed - thus:

```

3180 CLS#3:LOCATE (26-long)/2,12:PRINT"File name is
";:PEN 3:PRINT file.name$::PEN 1

```

Another line you might notice is 4580 - a dreaded GOTO! You will remember that GOTOs are permissible (just) where they form a fairly compact loop (as here), and where avoiding the GOTO causes as much bother as leaving it in is likely to produce. The loop in this case is really a REPEAT UNTIL loop - simulating these with WHILE WEND involves setting up control variables and is more bother than it is worth.

```

4000 ' Load old file from disc
4010 CLS
4020 GOSUB 4100          ' get filename to load
4030 GOSUB 4200          ' load file
4040 menu.number=3
4050 mde=1:GOSUB 600 'reset mode to 1
4090 RETURN
4100 ' get filename to load
4110 MID$(file.test$,1)="*      ":GOSUB 4300 ' check
    directory
4120 CLS:head=4:GOSUB 100 ' heading
4130 GOSUB 4400          ' display directory
4140 GOSUB 4500          ' get file name
4190 RETURN
4200 ' Load file
4210 OPENIN file.iden$
4220 INPUT#9,fields,longest.records,record
4222 ERASE file.data$
4224 DIM file.data$(fields-1,records)
4230 FOR i=0 TO fields-1
4240     FOR j=0 TO record-1
4250         INPUT#9,file.data$(i,j)
4260     NEXT
4270 NEXT
4280 CLOSEIN
4290 RETURN
4300 ' check disc directory
4310 CLS#3
4320 PEN 0:LOCATE 1,2
4330 |DIR,@file.test$
4340 dir.lines=VPOS(#0)-8
4350 PEN 1
4360 IF dir.lines=0 THEN RETURN
4370 IF dir.lines>10 THEN mde=2:GOSUB 600  many files
    need mode 2 display

```

```

4390 RETURN
4400 ' display directory
4410 LOCATE 1,4
4420 !DIR,@file.test$
4490 RETURN
4500 ' get file name for load
4510 CLS#1:PRINT#1," The above data files on this disc
c"
4515 LOCATE 5,MAX(13,VPOS(#0)+3):PRINT"Type your file n
ame here > ";
4520 GOSUB 3140 ' file name
4530 IF long<1 THEN RETURN
4540 MID$(file.test$,1)=file.name$:GOSUB 4300 ' check i
f file in directory
4550 IF dir.lines<>0 THEN RETURN
4560 CLS#1:PRINT#1,file.name$" not on this disc !"
4570 CLS#3:GOSUB 4400:t!=500:GOSUB 700 ' redo directo
ry and pause
4580 GOTO 4510 ' repeat after error
4590 RETURN

```

"CHANGE DRIVES" ROUTINE

The next routine permits us to use any extra drives we may have connected (if we have two floppy drives and a silicon disc we need "C" as well as "A" and "B"). The routine demonstrates the use of our menu routine to select multiple options within a routine. In structured programming in any language a subroutine (or procedure, or sub-program) becomes in effect a user-defined command that has been added to the language - it can be called from (almost) anywhere.

```

5000 ' Change disc drive
5010 keep=menu.number:menu.number=4:GOSUB 2000 ' call m
enu routine
5020 MID$(byte$,1)=CHR$(choice+47):CLS

```

```

5030 IF byte$="D" THEN menu.number=keep:RETURN
5040 !DRIVE,@byte$
5050 IF VPOS(#0)<>1 THEN CLS:LOCATE 9,10:PRINT"DRIVE "b
yte$" NOT AVAILABLE":t!=1000:GOSUB 700:menu.number=keep
:RETURN
5060 LOCATE 9,10:PRINT"DRIVE "byte$" NOW SELECTED":t!=1
000:GOSUB 700:menu.number=keep
5090 RETURN

```

"CATALOGUE DISC" ROUTINE

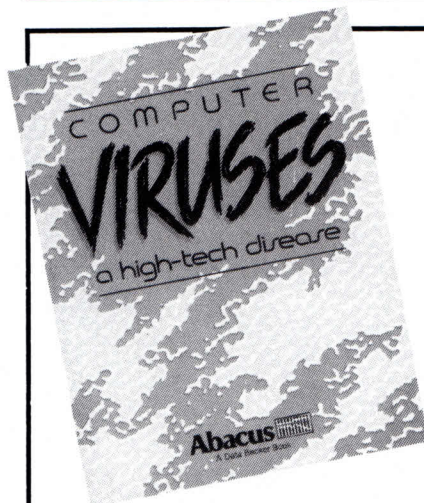
Finally, it is nice to be able to check a disc without either leaving the program, or pretending to want to retrieve a file. Note that only the files with our identifying extension (in this case ".DAT", but you can change this by altering file.extn\$ in line 13340) are found.

```

6000 ' Catalogue disc
6010 CLS
6020 MID$(file.test$,1)="* "
6030 GOSUB 4300 ' check if any relevant files on
disc
6040 head=5:GOSUB 100 ' heading
6050 IF dir.lines=0 THEN LOCATE 5,10:PRINT"No data file
s on this disc !":GOSUB 800:RETURN
6060 GOSUB 4400 ' display files found
6070 GOSUB 800:mde=1:GOSUB 600
6090 RETURN

```

Our program is now nearing completion - the routines for displaying our data, and editing an existing entry we will cover next time - this will only leave sorting and searching to complete the whole thing! Also next month we will have a look at the advanced techniques of user defined functions and recursion.



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SERENDIPITY

Finally getting his hands on a real Amstrad RS-232 Interface, Joseph Elkhorne discovers comms, also offering a BASIC Sorter and more...

It's only an opinion: I don't think Amstrad support has improved all that much over the past year. Before Christmas, I finally ordered, and advance-paid for, the genuine Amstrad RS-232 serial interface.

After only two months, I got it! This is not the fault of the dealer; indeed, he kept me apprised of promises made, and promises broken....at least, I got the thing. I had previously asked three other dealers for the item.

One lad tried to palm off a PCW unit. Now, it may or may not have worked. When I enquired about compatibility with a CPC machine, I got a blank look.

Some computers come with a serial interface built-in. This makes hooking up to a serial printer or a modem no problem. But we have to pay over \$200.00 extra for a facility that is now commonplace. At any rate, it works. Opening the box, one finds a manual and a black box with a ribbon cable.

This fits onto the edge connector of the computer. A D-25 connector on the side of the unit allows connection to the outside world. This serial interface is self-powered. I've been told that the early units used a plug-pak.

For the uninitiated, RS-232 is supposed to be a standard. Ask anyone involved in hardware and he will tell you that suffix C, the later revision of the standard, stands for Clayton's. More agony has been caused in the high-tech world by RS-232 than any dozen other factors.

Only if you are connecting up to a "foreign" printer are you likely to run into problems. If that happens, ask someone who's been there before. Don't re-invent the wheel!

In my case, I simply connected the I/F, ran a ribbon cable to the Modem, powered the rig up and with the book beside me, dialled my first computer bulletin board.

And second, third, fourth....gee, this is fun. There are a lot of message systems around, catering for different interests. The MS-DOS spectre seems to predominate these days, but one can still find CP/M sources, and special interest areas, ranging from science fiction, physics, chess, role-playing games, and on-line chat with other users, which is something like CBing.

In most cases, your computer is talking in ASCII, so there is no problem with compatibility. One call, you may find yourself linked to an IBM clone, another to a Commodore or an Apple, etc.

From the hardware point-of-view, we turn parallel data from the buss to serial via the interface. The Modem

accepts the serial data in the form of bi-polar pulses and converts them into voice frequency tones for transmission over ordinary telephone circuits.

On the software side, we have to have some means of matching your computer to the telecommunications service. This is done within the Amstrad interface by a sideways ROM. It gives you two modes of operation: Viatel style and ASCII terminal.

I have yet to try Viatel, if I ever do. There's so much to see and do on the bulletin boards that there's not enough time for other things (like writing columns).

There are other fiddly things you need to know, like baud rates, stop bits, and parity. These configure your system to make it compatible with the computer to which you are talking. They are software selectable via window menus with the most common resident as a 'default' table.

This means that as long as your Modem is set properly, you will likely succeed in communicating with minimum grief.

You have probably heard the expression, "When all else fails, read the book." Well, I think this particular Amstrad book leaves something to be desired. The layout could be improved and the binding is atrocious (the term 'perfect bound' must surely be one of the ironies of Twentieth-century publishing. In this case, I would say Amstrad's bookbinders need a new supply of flour-and-water).

The information is inclusive however, and includes a glossary of terms, the RS-232 pinouts, an explanation of the new bar commands, and use under CP/M.

Though the screen copyright message says 1986, one feels the design is much earlier. The CP/M discussion limits itself to Version 2.2; the file transfer protocol is XMODEM, which is obsolescent because it is SLOW!

File transfer does work - I have both uploaded (sent) and downloaded (received) files. One has the option of sending in straight ASCII mode, or in using the XMODEM approach, which has error-checking routines.

At 300 baud, a big file takes a long time with XMODEM. Therefore I will shortly be investigating later methods of operation. These will be published in due course.

Although I may have seemed somewhat negative about this interface, it is far superior to my first experience in telecommunicating. This involved a British unit specifically designed for the Amstrad. Unfortunately, the designers must have been new to the game. No inbuilt provision for file transfer existed. One had to write a BASIC program (gasp) to hopefully succeed in this endeavour.

Now that I have been bit by the BBS bug, I expect to be trading my slow Modem on a faster type. I doubt that I will go to the Trailblazer, which *must* work by magic. It can apparently work 60 times faster than my old unit.

More specifics on telecommunicating next month. We'll finish off this time with a set of programs for cataloging all those discs you have.

When I wrote this initially my plan was right, but it

had a severe bug. The problem lay in the way AMSDOS handles elements in a file. I had written the program to read a valid filename, add it to a RAM list and append the disc number in hex. When I accessed the file from BASIC, the first names were OK, but when it got to 0aH disc numbers, it treated these as delimiters. Thus revision 2 was written, which uses BCD values. Next, I found that file attributes were fouling up the sorting and modified the program to mask those off.

I know you're going to say you've seen lots of cataloging programs before. Why do another? Well, mine gives you those files that have the system attribute set.

AMSDOS will not do this. Often, I assign files to "system" to keep from cluttering up a directory. Therefore, I need to be able to see these in a complete catalog at a later date.

One shortcoming of this program is that it only shows files in User 0. This is generally not a problem, as most of us never depart from this user area. Those of you who've had exposure to MS-DOS and have become used to sub-directories may be dabbling in more than one user area.

After I completed and debugged the program, I realised a better approach would be to read the sectors where the directory resides, rather than use the CP/M system calls. Oh, well. It taught me more about machine code and the operating system. And the technique works.

Using CP/M to create the file was necessary, of course, to get around the AMSDOS limitation. A keen programmer would probably have written the sort routine in machine code also. I was too impatient to prove the catalogue program did work. Once I had written a BASIC sorter, I felt like moving on.

The technique requires that you number your discs; the program limit is 99. There is an upper limit on the number of file names that can fit in the TPA but I haven't hit it yet. So, be warned that it is not perfect. Also, this version works on the A drive only (I have modified it to work on the B drive, which in my case is an 80-track, double-sided type. Let us know if you want it).

The system prompts are rudimentary. Be sure you have a disc installed to write the file on when you complete your disc logging. Ctrl-C will then write the catalogue. Go to BASIC, run the sorting program; and wait. Interpreted sorting routines are not turbo-fast.

Following is the Basic Sorting program. The Assembler Cataloging program listing is too long to publish, but send us an A4 stamped, self-addressed envelope and we'll send a copy.

```

2 REM program pbaslog
3 REM J.L. Elkhorne
4 REM 6/4/87 - revised 5/11/88
9 :
10 OPENIN "diskfile.log"
20 long=0:INPUT #9, long$
30 IF LEN(long$)=1 THEN 50
40 long=256*(ASC(RIGHT$(long$,1)))
50 long=long+ASC(long$)

```

```

60 DIM name$(long)
70 CLS:PRINT long " names in file"
99 :
100 FOR j=1 TO long
110 INPUT #9,name$(j)
120 LOCATE 6,3:PRINT"Name ";j
130 NEXT
140 CLOSEIN
199 :
1000 REM sorting routine
1010 CLS:PRINT"Sorting ";long;" names"
1099 :
1100 FOR limit=2 TO long
1110 j=limit-1
1120 LOCATE 6,9:PRINT"Checking ";limit
1130 temp$=name$(limit)
1140 IF temp$>name$(j) THEN 1180
1150 name$(j+1)=name$(j)
1160 j=j-1
1170 IF j>0 THEN 1140
1180 name$(j+1)=temp$
1190 NEXT limit
1199 :
1200 REM store sorted file
1210 OPENDOUT "sortfile.log"
1220 WRITE #9,long
1230 FOR j=1 TO long
1240 WRITE #9,name$(j)
1250 NEXT
1260 CLOSEOUT
1299 :
1300 CLS:PRINT "Do you want hard copy? (Y/N)"
1310 LOCATE 9,9:INPUT p$
1320 IF UPPER$(p$)="Y" THEN 2000 ELSE STOP
1999 :
2000 REM hard copy
2010 col=1:PRINT #8
2020 FOR j=1 TO long
2030 PRINT #8,LEFT$(name$(j),8);".";
2040 PRINT #8,MID$(name$(j),9,3);
2050 PRINT #8," - ";RIGHT$(name$(j),2),
2100 col=col+1:IF col=4 THEN col=1:PRINT #8
2110 NEXT
2120 PRINT #8:REM empties buffer
2999 :
3000 REM screen print
3020 FOR j=1 TO long
3030 PRINT LEFT$(name$(j),8);".";
3050 PRINT MID$(name$(j),9,3);
3090 PRINT " - ";RIGHT$(name$(j),2)
3098 NEXT
3099 :
4000 END

```

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 President: Tom Caldwell (02 661 7573)
 Sec/Treas: Reed Walters (02 560 9487)
 Venue: Camdenville Comm. Ctr., Newtown on the
 1st Saturday of every month at 2.00 p.m.
 For more details contact the Secretary
 between 6.00 p.m. and 9 p.m.
 Mail: PO Box 423, Matraville, 2036

SYDNEY PC1512 USER GROUP
 Contact: Geoff Craine (02 76 6467) A/H
 (02 412 9213) B/H
 Venue: To be arranged; meeting initially on the
 third Tuesday of each month at 7.00 pm.

QUEENSLAND

BRISBANE AMSTRAD COMPUTER CLUB
 President: John O'Connor (07 271 3350)
 Vice Pres: John Digby (07 351 2553)
 Secretary: Bob Ashe (07 355 5699)
 Treasurer: Ivan Dowling (07 269 8795)
 Tech. Editor: Franz Hendrickx (07 356 0633)
 Venue: Main meetings in Room 15a of Junction
 Park State School, Waldheim St., Annerley
 starting at 7.30p.m on the 1st Tues. of the
 month. Another is held at Wynnum
 Central State H.Sch, Florence St., Wynnum
 Central on the 3rd Saturday of each month
 at 1.00p.m. The coordinator is Warren
 Kennedy (07 351 4232).
 A third is held at Newmarket State Sch.,
 Banks St., Newmarket on the second
 Saturday of each month at 1.30p.m. The
 co-ordinator is Cherry Shrier (07 351

6179).
 Mail: PO Box 167, Alderley, Qld. 4051

BUNDABERG AMSTRAD USER'S GROUP
 President: Ray Babbage (071 72 1223)
 Secretary: Clive Barrett (071 71 3668)
 Treasurer: Sheila Coe (071 72 8884)
 Venue: The third Tuesday of the month. For more
 details contact the above.
 Mail: 11 Laack St., Bundaberg, QLD 4670.

CABOOLTURE AMSTRAD USER GROUP
 President: John D'Archambaud (071 95 4860)
 Secretary: Stephen Yench
 Treasurer: Craig Deshon
 Venue: Contact above number for more details.

CAPRICORN AMSTRAD USERS GROUP
 Pres/Sec: Anthony Trost (079 33 1951)
 Treasurer: Dorothy Jasperson
 Venue: Block 2, Waraburra State School, Johnson
 Road, Gracemere on the first Friday of
 each month at 7.00 pm.
 Mail: 4 Sunrise Crescent, Gracemere, 4702

**COMPUTER USER GROUPS OF AUSTRALIA
 Pittsworth Branch**
 President: David Siebuhr
 Contact: Ron Langton (079 931 690)
 Venue: Every first Tuesday of every month from
 5 pm. at the St. Peter Lutheran Church
 Hall, Grand Street, Pittsworth.
 Mail: CUGA, PO Box 166, Pittsworth, 4356

GOLD COAST AMSTRAD USER GROUP
 President: Stephen Greenwood (075 572 442)
 Treasurer: Pamela Scott (075 323 334)
 Secretary: Ray Maclaren (075 398 743)
 Venue: Benowa State High School, Mediterranean
 Drive, Benowa on the first Saturday of
 each month at 2.00 pm.
 Mail: 7 Coral Gables Key, Broadbeach Waters,
 QLD 4218.

IPSWICH AMSTRAD USER GROUP
 Contact: Peter Wighton (07 288 4571)
 Venue: Every second Wednesday from 7.15 p.m.
 at Bremer High School, Blackstone Rd,
 Raceview

MACKAY AMSTRAD USER GROUP
 Contact: Des Mulrealley (551 409)
 Geoff Taylor (552 350)
 Venue: Meet every second Sunday morning.
 Contact the above for location and time.

**PENINSULA AMSTRAD CLUB
 (amalgamated with BACC)**
 President: Ivan Dowling (07 269 8795)
 Treasurer: Keith Johnston (07 203 2339)
 Venue: Kippa-Ring State School Library, Elizabeth

Avenue every third Tuesday of the month
 at 7.30 pm.

SOUTHSIDE AMSTRAD USER GROUP (QLD)
 President: Michael Toussaint (07 200 5414)
 Vice-Pres: Peter Incoll (07 208 2332)
 Secretary: John Botwright (07 208 4969)
 Treasurer: Ronald Waters (075 317 838)
 Librarian: Carol Watts (07 287 2882)
 Venue: Loganlea State High School (in the
 Communications Room) every 3rd Sat.
 of the month starting at 2.00 p.m. A Basic
 programming course is held fortnightly.
 Mail: 10 Carramar St, Loganlea, 4204

TOOWOOMBA AMSTRAD USERS GROUP
 President: Tony Carlaw (076 91 6161)
 Secretary: David Culliford (076 32 7277)
 Asst Secs: Chris & Glen Jones (076 91 2643)
 Treasurer: Robin Hopkins (076 34 1935)
 Librarian: Shane Gschidle (076 34 1935)
 Venue: Toowoomba Education Centre, Baker
 Street, Toowoomba on the 4th Monday of
 each month starting at 7.30 pm.
 Mail: c/o Secretary, 58 Curzon St, Toowoomba,
 QLD 4350

TOWNSVILLE AMSTRAD USER GROUP
 President: Ian Wallace (077 73 1798)
 Vice Pres: Doug Selmes (077 79 6011 xt 252)
 Treasurer: Chris Nisen (077 79 6299)
 Secretary: Alistair Buckingham (077 73 3955)
 Venue: Science Block of the Kirwan High School
 in Thuringowa Drive on the first and third
 Tuesdays each month at 7.30pm.

THE WARWICK AMSTRAD USER GROUP
 President: Mrs. D. Christensen
 Secretary: John Wade (076 61 5176)
 Treasurer: Neville Christensen

WEIPA AMSTRAD USERS CLUB
 President: Andrew Seaborn
 Vice-Pres: Dave Wootton
 Treasurer: Frances Casey
 Secretary: Gary Chippendale (070 69 7448)
 Venue: Noola Court in Weipa. Contact above for
 more details.
 Mail: 15 Noola Court, Weipa, QLD 4874.

WESTERN SUBURBS AMSTRAD USERS GROUP
 President: Peter Wighton (07 288 4571)
 Secretary: Jimmy James (07 376 1137)
 Contact: Keith Jarrot (07 376 3385)
 Venue: The Jamboree Heights State Primary
 School, 35 Beaneland Street, Jamboree
 Heights at 1.30 p.m. on the first Saturday
 in each month.
 Mail: Jimmy James, 36 Penong Street,
 Westlake, Brisbane 4074.

TASMANIA

SOUTHERN TASMANIAN AMSTRAD CLUB
 President: David Burt (002 44 3385)
 Secretary: Lance Brown (002 28 2018)
 Treasurer: Robin Johnson
 Venue: Northern Regional Library, Glenorchy on
 the 4th Wednesday of each month from
 7.30 pm.
 Mail: PO Box 247, North Hobart, 7002

**NORTHERN TASMANIA AMSTRAD COMPUTER
 CLUB**
 President: Keith Chapple (003 26 4338)
 Treasurer: Shane Crack (003 97 3298)
 Secretary: David Double (003 44 4243)
 Publicity: Bobby Lockett (003 44 8972)
 Tech. Off: Richard Wilson (003 93 1437)
 Junior Del: Jay Donat (003 31 6597)
 Venue: Launceston Community College (opposite
 Park Street) in Room 27 on the first
 Saturday of the month at 5.00 p.m.

N.W. COAST AMSTRAD USER'S CLUB
 President: Peter Gibson (004 24 5786)
 Treasurer: Robert Simpson
 Secretary: Karen Stevenson
 Venue: Hellyer College, Mooreville Rd, Burnie on
 the third Friday of each month at 6.30.
 Secretary, 112 Payne St, Burnie 7320

NEW ZEALAND

**THE AMSTRAD COMPUTER CLUB OF
 CANTERBURY**
 Contact: Ian Orchard 524 064
 Venue: Four Avenues School, cnr. Madras Street
 and Edgeware Road, Christchurch 1 on
 the fourth Wednesday of each month.
 Mail: C/o 50 Rapaki Road,
 St. Martins, Christchurch. 2 NZ.

AMSTRAD USERS GROUP
 Contact: John Court (666 143 A/H)
 Venue: Oranga Scout Hall, Ferguson Park,
 Waitangi Road, Auckland. Between 9.30
 am and 4 pm on the third Saturday and the
 last Sunday of the month. CPC and PCW's
 catered for.

WELLINGTON AMSTRAD USER GROUP
 Contact: Tony Tebbis 791 072 (evgs)
 Venue: Cafeteria, NZ Fisheries Research Division,
 Greta Point, on the first Monday of each
 month from 7.30 pm.
 Mail: PO Box 2575, Wellington, New Zealand.

User Group Contact List

Please note that the following names are listed as contacts for new user groups
 and should NOT be viewed as a problem solving service.

NSW
 Nick Rogers Bogan Gate (068) 64 1170
 Chris Craven Canowindra (063) 44 1150
 Trevor Farrell Coolah/Mudgee area (063) 77 1374
 David Higgins Cooma/Monaro (064) 52 1531
 Paul Wilson Moruya (044) 74 3160
 Frank Humphreys Murrumbidgee (066) 64 7290
 Stephen Gribben Singleton (065) 72 2732
 Chas Fletcher Toongabbie (02) 631 5037
 Nick Bruin Snr. Tweed Valley (066) 79 3280

VIC
 Brian Russell Ballarat (053) 31 2058
 C. van de Winckel Ballarat (053) 313 983
 Rod Anderson Camperdown (055) 93 2262

Adrian De Luca Glenroy (03) 300 3735
 Paul Walker Heathmont (03) 729 8657
 Terry Dovey Horsham (053) 82 3353
 Andrew Portbury Leongatha (056) 62 3694
 R. Kernebone Mildura (050) 23 3708
 Angela Evans Mt. Evelyn (03) 736 1852
 Keith McFadden Numurkah (058) 62 2069
 Maureen Morgan Warnambool (055) 67 1140

QLD
 Beryl Schramm Boyne Island (079) 73 8035
 Steven Doyle Caloundra (071) 91 3147
 Ric Alberry The Gap (07) 300 1675
 Kylie Telford Goondiwindi (076) 76 1746
 D.F. Read Ingham (077) 77 8576

Ian Jardine Piaba (071) 28 3688

SA
 Lindsay Allen Murray Bridge (085) 32 2340
 Mrs. S. Engler Penola (087) 36 6029

WA
 Barry Kauler Narrogin (098) 83 1011
 Graeme Worth Scarborough (09) 341 5211
 P.M. Nuyens Waroona (095) 33 1179

TAS
 Conal McClure Scottsdale (003) 52 2514

NT
 G.P. Heron Tiwi (089) 27 8814

CONTACTS: if you no longer want your name here,
 please advise us as soon as possible!
 FOR NEW READERS: if you want to start a group in
 your area just drop us a line with the relevant details
 and we will add you to the list.

DR. LOGO - THE FULL STORY

Realising just how useful and powerful Dr. Logo is, Peter Schmidt leads the new Logo user on a little trip through this land of new programming possibilities. Here's part one...

We all know that the Amstrad PCW is a truly remarkable word processor. But how often have you desired your documents to incorporate a graphic (perhaps just a simple sketch) to enhance your text? The obvious solution is of course to invest in a program such as MasterScan (with MasterPaint), Dr. Draw or even one of the better desktop publishers such as Stop Press or Newsdesk International, which might suit your needs.

But without additional expense, PCW users already have free of charge, the Dr. Logo 'turtle graphics' package on side 4 of their program discs. But don't be fooled, this is not just a graphics package; it is a complete programming language with a lot to offer as a teaching aid for both young and old alike. The

wonderful thing about Dr. Logo is that it gives immediately visible results.

I am not in any way attempting to suggest that Dr. Logo is the greatest graphics package ever produced, because it isn't, but it is both useful and interesting. With a little patience, almost any task is possible, as long as you persevere.

HOW TO USE DR.LOGO

In introducing Dr. Logo, little, if any knowledge of Logo is presumed. Therefore if you have never attempted to use this excellent program may I suggest you try the following:

On a separate blank formatted disc, using PIP (or perhaps the copying facility of Locoscript) copy the following files onto your disc:

J14CPM3.EMS (to boot your drive - unnecessary if already booted)
 SETKEYS.COM (to reset the keys for Dr. Logo)
 KEYS.DRL (special keyboard layout)
 LOGO.SUB
 LOGO.COM (the Dr. Logo Programs)
 Having booted your drive with this special program work-disc at the A> prompt type in SETKEYS KEYS.DRL (all commands must be followed with a {RETURN}). Follow this

with LOGO. When Logo has finished loading there should be a small ? in the top left-hand corner requesting you to type in your commands. To show the capabilities of Turtle Graphics begin by typing CS (to Clear the Screen). Your pseudo Turtle is now ready for work.

Begin by typing FD (all commands are followed by a space before the number) and a number (eg. FD 100). You will notice that your Turtle has moved forward leaving a line behind it. Now try PE (Pen to Erase) followed with the inevitable return. Now type BK 100 (Back). The turtle has gone back and erased the original mark. To draw another line you would type in PD (Pen is Drawing). Another handy command is PU (Pen is Up) which allows you to move around the screen without leaving a line behind.

The table below left gives a few of the simpler and handier commands (primitives in Logo jargon) which you might like to experiment with. If the command is followed by a ? then it needs an input number (eg. FD ? for FD 100) as required.

You will notice that these commands are reasonably logical and simple to use. There are many more commands available in the manual, but for the time being they remain unnecessary, and perhaps even confusing for the beginner.

To give you a rough idea of the potential capabilities of Turtle Graphics we shall set ourselves the simple task of asking the turtle to draw us a square (or box). As the screen is not giving full graphics potential we shall begin by setting a larger graphics screen with the command SETSPLIT 2 which will give you two lines of text for commands and messages and leave the rest of the screen over for graphics.

Now try the commands:

```
FD 100
LT 90
FD 100
LT 90
FD 100
LT 90
FD 100
LT 90
```

FD ?	Moves Turtle ForwArD required amount.
BK ?	Moves Turtle BacK or reverse of FD.
LT ?	Turtle Left Turns required degrees.
RT ?	Turtle Right Turns required degrees.
PE	Makes the Pen an Eraser.
PU	Picks Up the pen so that it doesn't draw.
PD	Puts the Pen Down to cancel PU or PE.
HT	Hides the Turtle from screen.
ST	Shows the Turtle (if it is hidden).
CS	Clears the Screen.
FS	Full Screen (no text or command line).
SETSPLIT ?	SETs the SPLIT screen to desired text and graphics (eg. SETSPLIT 2 for 2 lines of text).
SETPOS [? ?]	SETs POSition of turtle.
DIR	Gives DIRectory of format files (picture files DIRPIC).
SAVE ?	SAVEs all formats in memory to a file (picture SAVEPIC).
LOAD ?	LOADs format files into memory (picture LOADPIC).
ERALL	ERAses ALL the formats from the memory.
HOME	HOMEs turtle to centre of screen SETPOS [0 0].

This could (and should) be simplified by typing all the commands in one line:

```
FD 100 LT 90 FD 100 LT 90 FD 100 LT
90 FD 100 LT 90
```

Logo will accept multiple commands (best if they can fit in a single line for clarity). On your screen you should now have your square but rather poorly positioned. This can be improved in various ways, as we can draw our square in various ways.

Type in CS (Clear Screen) and try typing:

```
PU SETPOS [-100 -100] PD SETPOS
[100 -100] SETPOS [100 100] SETPOS
[-100 100] SETPOS [-100 -100] PU
SETPOS [0 0] PD.
```

What we have done here is decided exactly in what position on the screen the square shall be drawn; a useful alternative method of drawing the square, but still involving a lot of keying and restrictive in use. Later SETPOS will possibly become the most useful command of turtle graphics. With SETPOS, as long as you know your exact co-ordinates, you can send your turtle exactly where you desire, but more on that later.

We shall now go about designing a format with which we can automatically draw our square simply by typing square1. Using the table at left, see if you can follow what is happening:

```
to square1
  setsplit 2
  cs pu bk 200 lt 90 fd 350 rt 90 pd
  repeat 2 [fd 400 rt 90 fd 700 rt 90]
  pu setpos [0 0] pd
end
```

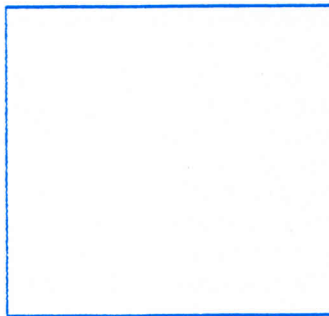
Now type square1. If you have keyed correctly you should now have a nearly full-size rectangle on your screen. (If you have any mistakes type ED "square1 to amend your format. Finish editing with the (exit) key.) Type CS and then square again.

Now if you type SAVE "square1 you will have stored this format onto

your disc for future use. The next time you load your disc type DIR and you will see your saved formats waiting for you. You only need to type in LOAD "square1 and your format will be ready to use again without having to be re-keyed.

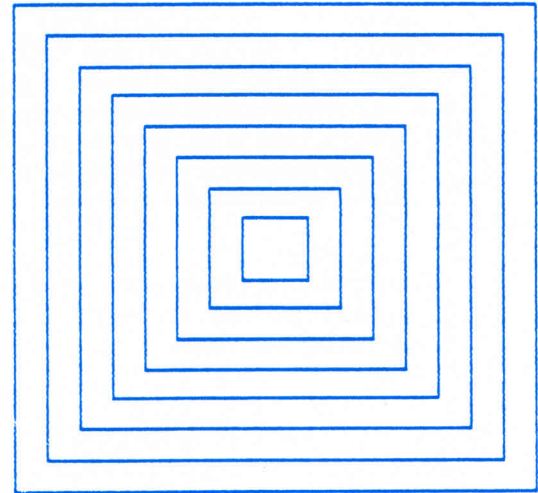
But this format would be restricted to a box 700 x 400. A much better format would be to write this as:

```
to square :side
  pu ht bk (:side / 2) lt 90 fd (:side / 2) rt 90
  pd
  repeat 4 [fd :side rt 90]
  pu rt 90 fd (:side / 2) lt 90 fd (:side / 2)
end
```



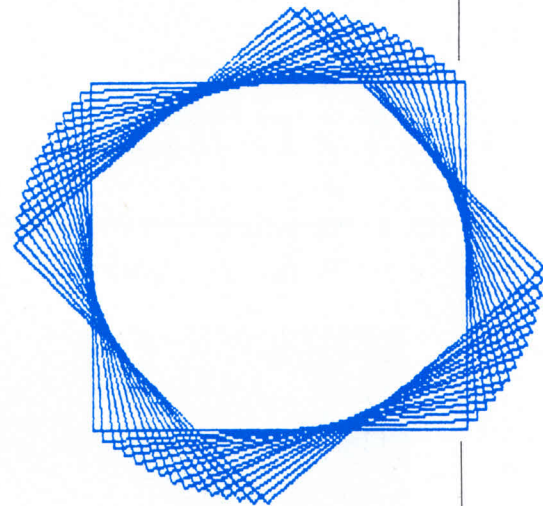
Now type in square 50. Once again ED "square if error messages occur. Try typing repeat 9 [square 250 LT 10] and variations thereof. You will notice how drastically the pattern changes by simply altering the numbers. Try designing a few of your own patterns using the square routine. In creating these formats what we have actually done is created our own primitive. Just like the commands that come with the Logo program, this primitive can now be used within other formats or at any other time (once loaded). For example:

```
to mulsquare
  square 50
  square 100
  square 150
  square 200
  square 250
  square 300
  square 350
  square 400
end
```



and again:

```
to pattern :repeat :width :angle
  (repeat :repeat [square :width lt
  :angle])
end
```



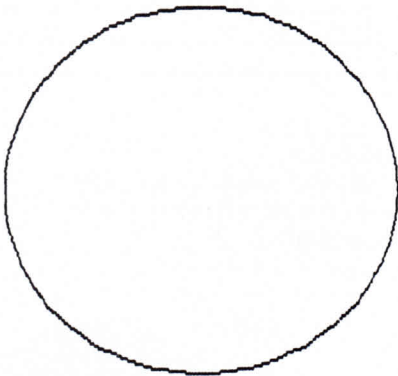
Now type in CS pattern 15 300 3 or CS pattern 9 300 85 or any numbers you like and see what happens. Our original format is now being used as a primitive within these other formats and the scope for creating your own primitives are restricted only by your imagination.

There are of course many variations which you could make of the square command. Try to create a format for a triangle, hexagon or octagon for yourself, using square as the basis for your format. Ordinary school geometry is all you need (eg.

divide 360 by the required number of sides for the angle you need to RT (360/3 = 120 for your triangle)).

Our next example, an approximation of a circle, should give you all the information you require to make your own shapes. For a circle type:

```
to circle :width
pu fd (:width / 2) lt 90 bk (:width / 90) pd
repeat 144 [fd (:width / 46) lt 2.5]
pu rt 90 bk (:width / 2) pd
end
```



All these graphics are very well and good but what does one do with

them once you have built them on the screen. You can of course always save them as a file to call back or finish off at any later time. The command you require for this is SAVEPIC "Name but remember that you need a massive 24k of disc space for each picture file you save.

Alternatively, for the 8000 series only, try putting a sheet of paper into your dot matrix printer and then pressing the keys {EXTRA} & {PTR}.

Before we finish this month please note these few essentials. First of all save your formats if you want to re-use them as listed above (eg. SAVE "Lesson1). But remember that save will install everything in the machine's memory into a file. For example if you key in square1, then square, then circle, plus a few of your own experiments, you will only need to save them once at the end of the session, not for every format. But if you do want to save them separately then type in ERALL to clear the machine's memory of previous listings before keying in the listing.

When loading you will notice the screen listing the formats as they are

being installed back into memory. Therefore you can, after loading, use erasefile to erase the old versions of your programs. When saving use names such as shapes or squares or lines to signify what category the formats saved belong to.

Another point to remember, especially if keying a magazine or pre-planned listing, the files can be keyed in or updated using Locoscript as long as you create a file and merge the text to update and then make an ASCII file with the .LOG extension to finish off. This is especially helpful if repeating or moving great chunks of text. But remember the keyboard layouts differ significantly.

Next month we will continue with our automatic shapes and patterns, adding a few new refinements. In the meantime type in the above routines and have a go at writing your own. Remember, send your original routines in to The Amstrad User, and if considered of merit they could earn you some pocket money as well as help others explore this intriguing programming language.

JUST WHEN YOU WERE

THINKING IT WAS SAFE TO GET OUT OF THE WATER.



FISH!

The tide is turning in the teeming metropolis of Fishworld. The oceans and seas are boiling off into space. The Seven Deadly Fins - an inter-dimensional group of anarchists - are on the loose. The project has been sabotaged...

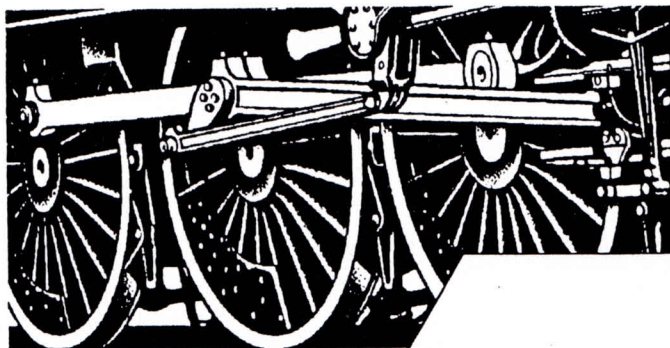
And you're a goldfish.

Tough. But then life's like that. Sometimes you're dealt a raw deal. Toast falls buttered-side down. Phones ring while you're in the bath. And there's always chili sauce on your kebab.

From the rain-soaked forests and London recording studios to the farthest reaches of time and space, Fish! will bemuse, dazzle and thrill you before confusing, razzling and killing you. So, dust down your tackle, dress up your flies, reel in a winner and play Fish!

ONE NIBBLE AND YOU'RE HOOKED. FISH! BY

MAGNETIC SCROLLS IS AVAILABLE ON THE AMSTRAD PCW, PC1512 (TEXT ONLY) AND PC1640 FOR \$69.95. SO WATER YOU WAITING FOR?



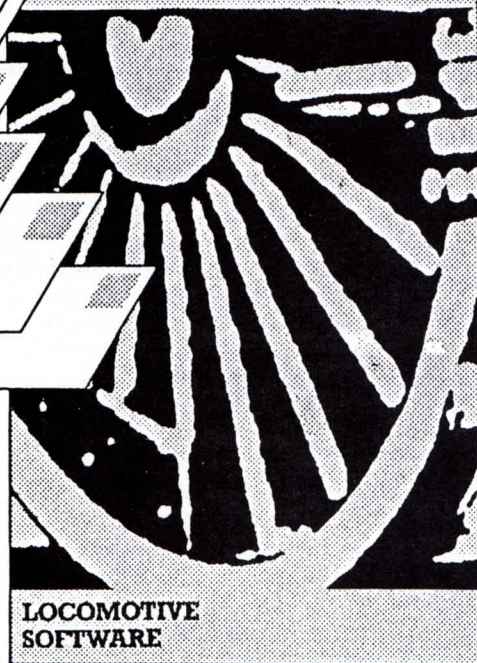
LocoMail for LocoScript 2

Mr J Smith
24 Larches Rise
New Westering
Hessex

Use LocoMail to send letters to everyone on your mailing list. Use its many advanced features to do much more –

- Produce letters for each name or data record, or just for a selection
- Include special text depending on the data to be merged – each version of your text is correctly laid out, whatever special information you insert
- Edit the merged letter before printing
- Save the result to disc if required
- Use LocoScript data files or ASCII data files from a CP/M program
- Prompt for information to be typed at the keyboard
- Perform arithmetic within LocoScript documents
- Add paragraph numbers automatically
- Produce sophisticated LocoMail 'programs' for Invoicing, Credit Control, Enquiries etc.▪

LocoMail
Mail Merge for LocoScript 2



LocoMail now comes with a completely revised 288 page User Guide – available separately for users of the PCW9512 and earlier versions of LocoMail.

- An extended tutorial section
- Detailed descriptions of the advanced facilities
- Worked examples of "program units", loops and conditional operations
- Descriptions of typical uses of LocoMail – Club Membership, Invoicing, Enquiries, Labels
- A set of "building blocks" to include in your own LocoMail applications
- Full technical description of LocoMail
- Troubleshooting guide

All the examples described in the User Guide are supplied on the LocoMail master disc. In case you're just buying the new User Guide, they are also supplied on the LocoMail Examples Disc, available separately.

- | | |
|------------------------------|----------|
| • LocoMail | \$105.00 |
| • LocoScript2 with LocoSpell | \$130.00 |
| • LocoMail User Guide | \$54.95 |
| • LocoMail Examples Disc | \$17.50 |

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Mount Waverley, Victoria. 3149.
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Bankcard, Mastercard or Visa accepted.

GRAND-PA ED

Back this month with part two of his review of ED, the CP/M text editor, Roger Williams looks at a host of new commands.

Last time you learnt how to create a text file using ED. First attempts are rarely satisfactory; spelling errors may have to be corrected, extra bits added, some bits deleted and perhaps some sections rearranged. ED has commands to enable you to perform all of these manipulations. Load up CP/M from your working disc and call up ED by typing:

```
ed<sp>learn.txt<cr>
```

(This is one of the files which you created last time.) When you receive the * command prompt type:

```
#a#<cr>
```

This multiple command instructs ED to append the text from the file to the memory buffer (#a) and then to type out the contents of the buffer (#t). Let's suppose that line 2 should have had a dash between the two letters (why? So you can learn how to make alterations). First, you have to locate the line containing the string xy; to do this you use ED's f command. ED searches forward from the current line to the first occurrence of the string. This may not be the particular "bit" that needs changing! It is vital, for your own sanity, to verify exactly where ED's pointer to the text in the buffer is located. To do this you should follow every search command with 0lt (zero ell t) to display the line which ED has located.

At the moment, the last line on your screen should be:

```
1: *
```

If not, type in b<cr> to reset the pointer to the start of the text buffer. Now type:

```
fx<ctrl-z>0lt<cr>
```

Compare how this instruction appears on your screen with what you were instructed to type; ED shows you a "visible" <ctrl-z> by displaying ^z. If you have typed the correct instruction, ED will display:

```
2: xy
2: *
```

Now type:

```
sy<ctrl-z>-y<ctrl-z>0lt<cr>
```

The first letter s is the substitute command; the following letters up to the first <ctrl-z> identify the bit to be replaced; the letters between the two <ctrl-z> characters specify what is to replace the identified bit; the 0lt returns to the beginning of the line and displays it on the screen to verify that the substitution was successful. Don't skip the 0lt (zero ell t) part - an undetected typing error can result in chaos! If you were successful, you will see:

```
2: x-y
2: *
```

If you were not successful, you will probably have received a rather strange looking error message. BREAK ? AT 0 is a common one; it usually means that you have typed the letter oh instead of the number zero. If any error message appears, return to the beginning of the line (using 0lt<cr>), check very carefully what has happened, and try again.

Your turn now. Use the s command to place a 'w' in front of the 'x'. Now place a 'z' after the 'y', and replace the dash with a colon. Your modified line should look like:

```
2: wx:yz
2: *
```

(In case you are confused, the first change uses the command sx<ctrl-z>wx<ctrl-z>0lt<cr>. Don't try to do

everything at once; make only one change at a time.)

No matter how careful you are, you will eventually mess up a line so badly that the only sensible thing to do is to kill the whole line and retype it in insert mode. The command to do this is ki<cr>. Don't forget the <ctrl-z> to exit from insert mode. To try this out, return to the beginning of the buffer and display the text with b#t<cr>. Pretend that line 5 has been messed up. First, you must move the pointer to that line. The f command could be used, but because we know the line number, it is easier to use 5:t<cr>; the colon command finds the line and the t command prints it for verification. Once you are on line 5, type:

```
ki<cr>
lower case letters becoming<cr>
<ctrl-z>
b#t<cr>
```

Much easier than using the s command in this case. Notice again, the difference between using 'i' and 'I' for inserting text.

So far you have used the s command to add bits to a line, or to alter bits that are already there. It can also be used to delete bits. Go to line 2 and delete the letter y by typing:

```
2:t<cr>
sy<ctrl-z><ctrl-z>0lt<cr>
```

Clever, isn't it? The command says substitute nothing for y. You can even join two lines together, or split a line into two; the s command uses the special symbol <ctrl-l> (that's control ell) for end of line. Try it out by typing:

```
5:t<cr>
s<ctrl-l><ctrl-z><sp><ctrl-z>0lt<cr>
```

The end of line is replaced by a space to keep the text readable. (In CP/M 2.2, ED just might appear to get a bit confused about the line numbers after you have joined two lines together like this. Go back to the beginning and type out the text with b#t<cr>. Does ED now start with line 2:? (No reason to worry, so far as I know.)

The s command is very powerful,

and a typing mistake can really cause havoc with your text file. ED has two commands which make your life easier. The h command is similar to BASIC's SAVE command; the changes you have made so far are saved to the disc, and ED is reset to edit the newly saved version of the file, but with an empty buffer. After several successful edits, it is a good idea to issue this command so that these successful changes are not lost. The o (letter oh, not zero) command simply abandons any changes you have made to the text in the buffer. This is like BASIC's NEW command. In both cases the original disc file is reset to the beginning; you must type the #a command to reload it into the text buffer.

Once a file exceeds 24 lines, the #t command becomes less useful; to

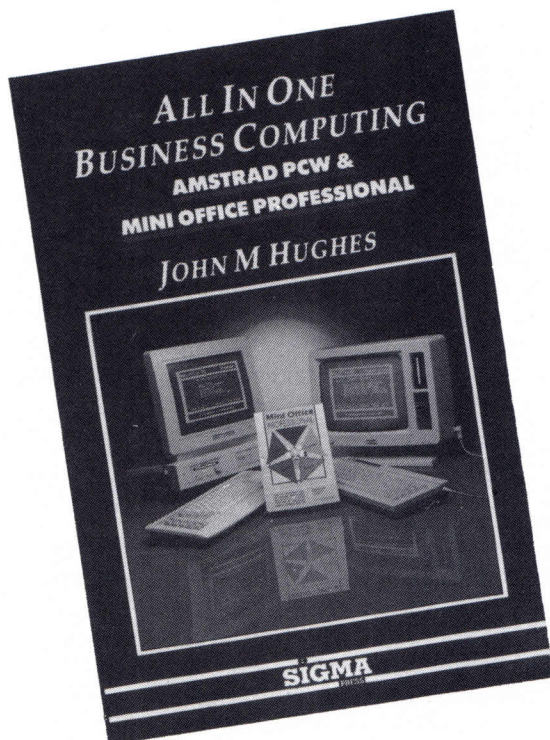
read the text, it is necessary to use CP/M's <ctrl-s> and <ctrl-q> commands to stop and start the screen display. ED offers the alternative p command (p for page); 0p (zero p) displays 23 lines from the current pointer position, p advances the pointer by 23 lines and then displays a page (screen full) of text, while -p goes backwards by 23 lines. This is a very convenient way to browse through a long text file.

The commands covered so far are only part of ED's repertoire, yet they will enable you to create and edit text files with relative ease, provided you practise using them. They all work for both CP/M 2.2 and CP/M Plus. Next month I will be discussing The Small C Interpreter available on the PD "Three In One" language disc (#612/#812). In the mean time, you

can gain valuable experience in using ED by making a list of all the new commands introduced in this article, and then using ED to update the file commands.txt which you already have on your work disc. Print out a copy of this file for reference whenever you use ED.

At this point I would guess that many of you are begging for a "full-screen" text editor, one that understands cursor keys, has insert and over-type modes, and shows on the screen the changes you have made without being asked. There are plenty around, but check the quality before you buy. But, if there are any nostalgia buffs out there who, like me, enjoy using ED, write to the Editor and let him know. If he gets enough letters, he may let me write an advanced tutorial on ED.

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ROUND BALLS & CORNERS

The Joystick Wizard kicks off with two very different PCW games for soccer hooligans.

WORLD OF SOCCER

Manager's-eye view of the soccer field
from Coda **PCW - \$59.95**

Strictly for the soccer (er, um... I mean 'Football'... yes...) enthusiast, World of Soccer has very little to do with the actual playing of the game on the field, and everything to do with managing a football team.

World of Soccer is not strictly a game at all but a strategy program where all the work is cranial. The program, big on tables and charts and not concerned with pretty graphics allows you, the manager of one of thirty three European soccer teams, to have control of team selection, game tactics, defining player styles and strengths, and ultimately, winning or losing those important matches, as well as a lot more.

At first glance, it is apparent that the game is very realistic. Players get into trouble on the field, receiving various injuries that may or may not affect their play. They have their good and bad days and it's up to you to be aware of how each player is faring at any given time.

The team you select may be any one of 33 teams from around Europe - from Albania to Yugoslavia. For the four Great Britain teams initial squads have been selected which you may use (if you are knowledgeable enough to know who all those players are), or you can add your own players, defining their positions and skills as you desire.

During game-play you, as the manager and coach, may substitute your players or move them forward and back, thus altering the game-play and creating (depending on how crafty you are) either advantageous or totally disastrous conditions on the field, ie. putting your Reserve Goalie out at Left Wing is just plain suicidal!

If you don't know your soccer, you'll have problems. It's not easy to tell what's going on in the field, due to the way game-play is presented; so time needs to be taken to get used to the technique used to control the game.

This game presupposes a fair to good knowledge of soccer strategy. You need to know what each position on the field is and which players are of best use there. You also need to be aware of how other teams are faring and

how each of your individual players are keeping. Their form will vary with each game, so you really need a pencil and paper by the keyboard to scribble notes. The game's a lot of fun although it's a bit slow - you make your own action. The game takes a while to play (but can be saved after each game) and probably won't hold your attention if you don't know your soccer. Soccer fans - enjoy!

MATCH DAY II

Capital S for Sweat in this Ocean
simulation **PCW - \$57.95**

Here's a soccer game with lots of action, great graphics and cleverly designed player control options. Sound interested? Match Day II is a game that will keep the boys (and girls too!) sitting in front of the computer, joysticks in hand, for hours on end.

What's so special about this particular program? Not a great deal, but the game can, for a start, allow up to eight people to play in a tournament against each other. In this case, the program arranges a fixture to allow players to compete against each other, finally showing the league tables with each player's results. Alternatively, a single player can challenge a computer generated team at different skill levels and thus develop skills.

This particular game uses what the instructions call a Diamond Deflection System. Very realistic, this simulates how in reality a soccerball would ricochet off a player, depending on the action and position of the player. So you can control your player on the field to return a volley in a number of directions, and at different forces.

The field is viewed from the side and above the players, perhaps as a commentator would see it. As the ball is moved around the field, so the screen scrolls to the left or right. This way, the field is shown as large as possible. Players look pretty well realistic; their movements not terribly realistic but quite effective. Differentiating between players of both teams is no problem. You control one of your players at a time, with control switching to another player as the ball moves closer to him. In this way you have control of all your team, including the goalie.

You are also given control over the kicking power of the players. Accessed in a menu facility, you can change the 'kickometer' to fix the force at medium or hard, or you can allow for fluctuating kicking force.

Match Day II is not a game that requires a prior knowledge of soccer. As long as you know what goal you're kicking to, and what colour you are, you're set for action. Getting acquainted with the controls is an art in itself; you won't become a Maradona or Platini overnight - not in reality and not in the game. Practice makes perfect. One fault was found in the instructions: to load you simply switch the PCW on and insert the disc - it's self-booting. Instructions claim the game loads from CP/M; well, our copy didn't. This is a fun game to be enjoyed most with friends, but be a good sport or you may lose them!

Joined up writing on a PCW8256? Yes, use LocoFont!

LocoFont Set 1 & 2 give you ten distinctive tpestyles on the PCW's built-in matrix printer.

With LocoFont your PCW printer can print in a variety of different tpestyles. A total of fourteen styles are available in Set 1 and Set 2.

A set of LocoFont tpestyles consists of a disc including a "character set" file for each of the extra tpestyles, together with full installation instructions. Except for Old English, all styles include all of the characters provided by LocoScript2. Briefly, all you need to do to access the fonts is to copy the files to the Start-of-Day disc and update the Settings file. To use one of the new tpestyles, simply select the appropriate character set.

The Sans Serif style has been designed with the same character widths as the standard style. So Sans Serif documents lay out identically to the standard style. The other new styles have different character widths and documents using these may lay out in a slightly different way.

The two "Mini" styles are designed for use at eight lines per inch, giving more characters to the page. The rest are intended to be used at six characters per inch.

Note that a document can only use a single style.

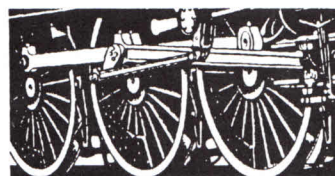
LocoFont Set1 & 2 are available from The Amstrad User at \$75.00 and \$65.00 respectively.

LocoScript2 - New Edition!

If you haven't already, now's the time to move up to LocoScript2 - the better word processor for the PCW.

Not only have we released LocoFont (which only works with LocoScript2), but for LocoScript2 itself now comes with two highly quality tpestyles. And if you want to use a different printer, we now support over 250 matrix, daisywheel and laser printers - but for some, you may need the Printer Drivers Disc

The new edition of LocoScript2 costs \$87.00. Buy LocoScript2 together with our spelling checker LocoSpell for \$130.00 saving \$32 on the combined price. To complete the family, add LocoMail for \$105.00.



LOCOMOTIVE SOFTWARE

Allen Court, Dorking, Surrey RH4 1YL
Phone (0306) 740606

LocoFont - Set 1

Definite

We have been forced to adopt a tougher approach regarding returns of faulty product. We request that you now call our office on the number....
ABCDE abcde aBy&c ABΓΔE aBrrr ABBrr

Modern

After you have disconnected the rear cover, gently remove the card marked screen and place it to one side. You should not attempt to force any of ...
BCDE abcde aBy&c ABΓΔE aBrrr ABBrr

Roman

All amounts are now expressed inclusive of Value Added Tax. The amount still remains payable at the prevailing rate, subject to the....
ABCDE abcde aBy&c ABΓΔE aBrrr ABBrr

Capitals

FOR SALE :
MINI 1000 - GOOD LITTLE RUNNER, NEEDS A LITTLE WORK. TAX AND M.O.T. UNTIL JANUARY 89. NEW SUBFRAME, BRAKES ...
BCDE ABCDE ABΓΔE ABΓΔE ABBrrr ABBrrr

Script

We're glad to hear that you enjoyed the little "surprise" party that we threw for you. The flowers were father's idea and he even chose the...
ABCDE abcde ABΓΔE aBy&c aBrrr ABBrr

Deco

Avocado Pear £1.95
Brown Cocktail £2.50
D&D £1.95
Fantelepe Melon £1.95
BCDE abcde aBy&c ABΓΔE ABBrrr aBrrr

Copper Plate

You are invited to join in with another of Ted's houswarming parties. This time if you want anything other than hotdogs, crisps and beer then...
ABCDE abcde aBy&c ABΓΔE aBrrr ABBrr

Finesse

St David's School - Summer fête 88
This year's fête will be even bigger than last year's. We hope to exceed last year's fund raising efforts ...
BCDE abcde aBy&c ABΓΔE aBrrr ABBrrr

Standard

Please find enclosed confirmation of your order for an additional 50 brass fittings with screw threads. There is a five percent increase to our...
ABCDE abcde aBy&c ABΓΔE aBrrr ABBrr

LocoFont - Set 2

Penman

This will probably be the longest letter that I have ever written to you. I just haven't had time to put 'pen to paper' since I started my...
ABCDE abcde aBy&c ABΓΔE aBrrr ABBrr

Old English

The Old Antique Shop
27 The Square, West Street
Somerton, Somerset
TA23 4WU
ABCDE abcde

Mini 15/17

The software contained in this package is supplied on the terms and conditions indicated below. Opening of this package indicates acceptance of...
ABCDE abcde aBy&c ABΓΔE aBrrr ABBrr

Mini PS

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TRANSFERRING FILES '89-STYLE

There's a lot to be learnt regarding file handling between computers. Kevin McLean kindly explains in normal English...

There are dozens of reasons for transferring files from one computer to another, whether they be program or text files (some not always within the letter of the law). Text files are not a problem if the author allows distribution. Program files are subject to Copyright laws and designed to be run on one computer only. There have been special cases where program files have been allowed to be transferred to other machines:- breakdowns, shortage of machine specific software, home written software etc.

Most people would transfer data files when purchasing a new model computer, or if bringing home work to a different computer. Writers have to be able to send their copy to the publisher. Programmers have to make sure programs work on different machines. For whatever reason, transferring files has never been easy and doesn't look like improving in the immediate future.

COMPATIBILITY PROBLEMS

The Amstrad 'family' is not a major problem within itself, however outside computers do create problems of file compatibility. First and most obvious is the disc size. Amstrad 464 and 6128's have a non-standard disc size of 76mm or 3 inches. IBM and other major brands have a new standard disc size of 89mm or 3.5 inches. The old IBM standard was 133 mm or 5.25 inches. The next hurdle is the particular operating system of each machine. Eg, the Amstrad 464 uses Basic and CP/M 2.2, the 6128 uses Basic and

CP/M 3.0, PCW's use Locomotive Basic and CP/M 3.0 and PCs use the MSDOS 3.2, 3.3 operating system, DOSPLUS and GEM.

PROGRAM FILES

It is possible to transfer text or data files between any of these machines, however program files will only work on machines with similar or downward compatible operating systems, 464 basic should work on a 6128 with no or possibly a few alterations, CP/M 2.2 should (mostly) work in the CP/M 3.0 environment. Locomotive basic programs will work on 464 and 6128 computers and vice versa, as long as the programs use 'common' Basic instructions. MSDOS 3.3 will run MSDOS 3.2 programs and DOSPLUS will run most MSDOS applications (not all).

TEXT OR DATA FILES

If transferring text files only these different operating systems do not come into contention. The only problems for text or data files are the formatted width, carriage return and line feed symbols. These problems arise because different word processing programs have different ways of indicating end of line and line feed characters. The problems can be overcome by either using the same wordprocessor on both computers, or using an 'ASCII' type wordprocessor, e.g. Tasword or PC Write. Different computers experience screen width problems, especially the PCW group.

When organizing data or text files for transfer it is best to stay a little

inside the 80 column maximum, e.g. 75 or 78. Most Database, Spreadsheet and Word processing programs will allow ASCII files to be created from within the programs, or perhaps externally. Straight ASCII is the best way to travel for ease of transfers.

TRANSFER METHODS

The simplest transfer method, to my way of thinking, is to use the same machine with two different drives fitted, e.g. a 464/6128 with both 76 mm/3 inch drive and 133mm/5.25 inch drive. The next method is by hard wiring both machines via a null modem cable connected to the RS232 ports. These cables are tricky and the individual manuals will show the wiring required. To save hassles I recommend getting a cable made up by your local electronics shop (take in both manuals). Each machine will require an RS232 port, the 464 and 6128 will need an interface to obtain these ports as they do not come standard. Some RS232 ports have different plug ends, e.g. 25 pins to 9 pins, and/or male/female plugs. The third and by far most complex method for file transfer is to connect both computers via modems.

DISC DRIVES

Although it is possible to transfer files from a tape drive machine to a disc drive machine I would recommend borrowing a disc drive to speed up the operation. Outside (Amstrad) transfers create an additional problem of disc formats. Every manufacturer has its own specific way of formatting discs. This problem can be overcome by Software, e.g. PC-ALIEN. Amstrad to Amstrad is not a problem however, and most brands of IBM compatible machines appear to read the Amstrad format O.K. Use of a RAM disc will speed up file transfers, especially on single drive machines.

The COPY command in CP/M and MSDOS is the one used to move files from one drive to the other, e.g. a test or data file from a 6128 to PCW.

HARD WIRING

Both null modem cable and modem

file transfers, require software to 'push' the files from one machine to the other. It is best to use the same program either end, (but not essential). These "Communications" programs are reasonably cheap and non-commercial, shareware versions can also be obtained free, off bulletin boards, or from the authors directly for a modest fee. Procomm, Telix and Qmodem are good programs. These programs use different 'protocols' for transfers. As long as we set the same 'protocols' either end there shouldn't be a problem. Format of the data to be transferred and speed of the transfer are the other major considerations.

Program files have to have error checking protocols as one incorrect or missing byte will crash the program. Although ASCII is a little more forgiving, I recommend using the error checking protocols anyway. Xmodem, Ymodem, Ymodem batch and Sealink are common protocols. After hooking up the cables, and starting up the software it is a good idea to test the link to see if everything is OK. Send a character down from one machine to the other with 'echo on' and see if it arrives, or put both machine in 'host mode' and try some backchat. A break in soldered joints is a real problem when using ribbon cable for the Null modem cable. You should be right to Upload and Download to your heart's content at this stage (remembering it is illegal to transfer copyrighted programs).

Although some programs allow the machines to be unattended it is a good idea to stay close and handy, especially if a hard disc is involved. Very high transmission rates are now available (up to 115,000 baud), but different disc drive speeds may cause errors at high baud rates. A lower transfer rate will solve the problem.

MODEMS

I deliberately left modems till last so that sane readers may finish at this point. Although modems can be great fun for the hobbyist and are capable of infinite 'magic tricks', be prepared for what I can only describe as a Technical Culture Shock for the uninitiated. Firstly, cost now becomes

an important consideration as modems use existing telephone lines to transfer data files. Although Telecom has been trying to improve its image, generosity does not extend to computer related services. It is possible to transfer any type of file anywhere in the world where a telephone line exists, but for the most part it is more secure to post it on disc, and the data has less chance of catching a 'virus' on the way.

Similar hardware and software is required for modem transfers as hardwiring, with the added modem linked to either computer to transform the signal into a format used by telecom. It would be safe to comment that most text files in Australia are sent by mail rather than modem, and I think this speaks volumes for the current modem situation in Australia. Maybe in the not too distant future modems will come standard with every computer, to allow file transfer, but there are lots of hardware and software compatibility problems which have to be ironed out as yet.

I would recommend buying a good communications magazine (Stewart Fist) or book before commencing any modem transfers, especially with the current attitude to viruses and recent hacking of bank and finance computers. Unfortunately, a minority group in Australia has brought about this disapproving public sentiment. Contrary to popular belief, breaking into bank, and defence force computers by modem does not require a high degree of intelligence, and in some recent cases, it is obvious that no grey matter is required at all!

Most transfers, whatever the method, will require some help from a more experienced person, or tons of patience. Hard-wiring is the best for outside computers as the disc format problem can be overcome. Amstrad to Amstrad is probably best achieved by locating someone with a dual, different size drive system (although, this could be a problem!). Finally, failing all the above, most major cities and towns offer professional transfer services at reasonable rates for large amounts of data. Good Luck!!



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ON A WING AND A PRAYER

Just landed and about to really take off is Microsoft's latest version of Flight Simulator. Here's a package no-one should miss. Shane Kelly returns to take it out for a spin...

Given the current spate of air crashes at the moment, any person who contemplates flying must be using Microsoft Flight Simulator vers. 3.0. I have only been flying for about two days but so far I have survived 89 crashes. I guess some commercial airlines would be envious of that record!

Okay, seriously now, why review a program that has been around for years? Well, firstly because I was asked to and secondly because I had never used Flight Simulator before. So the theory goes that if I haven't used it before then there must be other people out there who also haven't had the thrill of going into an uncontrollable dive from 10,000 feet and walking away from the resultant crash.

When you plonk down your \$85 you get a slim box containing the Microsoft Licence Agreement that warns you to read it before you unseal the discs contained in the envelope attached to the back of the agreement. If you do read it you will discover that you have only been granted the right to use the software and you do not own it, and what's more, Microsoft are not liable for anything! You also get a manual of about 220 pages containing everything you need to know to operate the simulator, and a set of charts for various areas around major airports in the U.S.A., plus a quick reference guide. Believe me, there is \$85 worth of material there alone.

Installing the program is simplicity itself. For floppy discs (you will need two drives or at least 720k of on-line storage) just make a back-up copy of both discs and then place the back-up copy of the program disc in drive A: and the back-up scenery disc in drive B:, change to the A: drive and type FS - that's all there is to it. For hard disc users, go to the root directory (C:\>) and make a directory called fltsim and then copy all files from both discs to this directory and then type FS. From what I can see, there is no copy protection on this program which makes installation a breeze.

When you type FS you will be confronted with a screen asking you if you want to answer the setup questions or go for a no questions asked setup. I went for the no questions asked setup and was confronted with a blank screen, so I suggest you ignore that and answer the questions. They are quite elementary, but an Amstrad option is not available so you will have to read your computer manual to find out what sort of answers to give. The flight simulator manual is quite good when it comes to explaining the various options so there should be no trouble for any type of Amstrad screen. After you have picked your screen setup you are then asked what mode you want to fly in. For novices pick the demo mode as this will enable you to see what Flight Simulator can do without having to

fly it yourself. Next pick your keyboard type from the list given. Once you have set up the various options you should subsequently start FS by typing FS3 which will bypass the startup questions.

I recommend that you allocate about 2 hours to reading the manual before you place a disc in the drive so that you get some sort of overview of what it's all about. Failing that, do what I did and just read the getting started section and begin bending airplanes!

When you get sick of not being able to control the plane and just running out of fuel and/or cork-screwing into the ground from a great height, start at the beginning of the manual and work your way through it slowly and carefully. Believe me, if anyone can master this program in a single afternoon then he/she should be flying jets!

The manual is well organised, taking first things first. There is the basic window display and flight instruments and an explanation of these things that is brief but not terse. Then follows the actual aircraft controls and the view menus (what you see and from what vantage point, eg. cockpit, tower etc.) and these are really comprehensive, allowing you to change the angle of view and zoom as well as change the active window. Then there's the flap controls and all the other secondary controls that sit around the instrument cluster.

After you know where the controls are, you are gently led into your first flight (or crash in my case!). This starts you off on Meigs field, a small airport near Chicago. The aim of your first flight should be to attain straight and level flight at around 3000 feet. Once you have mastered the art of keeping the plane in the air, it's time for the most challenging part of your flying lesson - getting back to earth in one piece! This is something I have not as yet mastered, crashing nine times out of ten. However, you don't need to be able to land to have a good time with this program. Half the fun is in choosing your options and trying out the various configura-

tions of all the menu options. My favourite so far is flying under the Golden Gate Bridge or weaving in and out of the various office block towers around Chicago.

Menu one is the MODE menu and from this menu you select which aircraft you will fly and which airport you will fly it from as well as what happens when you start up the program. There is even an instant replay of your last few moments of flight (or crash in most cases).

Menu two is the VIEW menu and this lets you set up which windows are active, where they appear on the screen, what you see in them, the zoom factor for the active window and various other options to do with the view you see.

Menu three is the ENVIRO menu where you can set up the flying conditions for your flight. For example you can have a cloudy day with thunderstorms and wind or a beautiful clear day just right for visual flying without instruments. There are so many combinations of environmental factors that just about any conditions can be simulated.

Menu four is the SIM menu. From here you can set such things as the reliability of your aircraft, sound on or off, crash analysis on or off, auto co-ordination of ailerons and rudders, whether or not you want smoke, and also the sensitivity of the mouse, keyboard and joystick.

The NAV/COM menu is next and this is mainly to do with navigation instruments and setting up the simulator to fly anywhere in the "world". This is the most advanced menu and it will take a while for anyone to get used to this one.

All the main menus are explained in detail in the manual as well as sections on basic flight training, advanced flight training, aerobatics and navigation using instruments and dead reckoning. To follow this we have the entertainment sections which include Formation flying, crop dusting, multi-player flight and a World War I simulation which lets you engage in dog fights with other (more experienced) pilots.

If that's not enough to keep you

busy for a month of Sundays then you are either a fully qualified jet jockey or a liar.

As you may have gathered, I like this program. It's fun, but with enough in it so that you should never become bored with it. I played with it until I could at least take off and get to straight and level flight with no dramas. Then I got serious and started to fly under the Golden Gate bridge, the aim being to get under the bridge in one piece and then turn, line up, and do it again. If they ever need anyone to perform that particular stunt for real then I'm your man. My next play was with all the various options in the environment menu which let me set things like the season, time of day, thunderstorms and turbulence;

then I played with flying around "the world" with the Nav/Com menu. I played for two days solid with this program and I only scratched the surface.

All in all, this package is worth the money if you're into simulations and worth the money if you're looking for something different from the usual shoot-em-ups or adventures. But be prepared to spend a LOT of time to become proficient at the controls.

For the more adventurous, when you can at least control the aircraft, try the World War 1 Ace game. It's better than most shoot-em-ups (in my case it was a shoot-me-down!) and I played it for ages before I got sick of being a swiss cheese for those verdammt Krauts.

I ran this program on an AT compatible at 6 mhz with a Hercules graphics card, so readers with a 1640MD should have no trouble.

Buy it, use it, enjoy it.



SELF-POSTING SPREADSHEET

A self-posting spreadsheet is a great time and sweat saver, allowing you to get on with business. Helen Bradley explains...

One of the many uses to which home and small business computer users put their spreadsheet packages is creating a cash book or journal to record expenses and sources of income for a financial year. These spreadsheet applications mimic, in looks, their manual counterparts.

An example of such a manual system is the recording of pay cheques of employees of a small business in a ledger book. An example of part of this manual system is shown in figure 1.

The manual system records the

column contains one piece of information. The columns headed DATE, CHQ. NO., AMOUNT and PAYEE are self explanatory. The columns headed Office, Sales and Spare Parts represent the departments in the business. You can see that J. Brown's salary is to be accounted to the Office department and the salary for S. Smith to the Sales Department etc. Each line of the book holds the information for one pay cheque. This example is fairly easily implemented both manually and on the computer.

The frustrating aspect of imple-

DATE	CHQ. NO	AMOUNT	PAYEE	WAGES		
				Office	Sales	Spare Parts
02-Jul-88	32670	\$100.00	J. Brown	\$100.00		
02-Jul-88	32671	\$200.00	S. Smith		\$200.00	
02-Jul-88	32672	\$130.00	P. Jones			\$130.00
02-Jul-88	32673	\$140.00	C. Black	\$140.00		
02-Jul-88	32674	\$150.00	R. White		\$150.00	
09-Jul-88	32675	\$120.00	P. Jones			\$120.00

FIG. 1

breakdown of wages paid to employees of a hypothetical Car Yard. Some of the employees work in the Office, some in the Sales Department and some work in Spare Parts. It is important to the Proprietor that accurate records are kept as to the total wages paid out to the employees of the yard and that the wages are also broken down by departments.

As you can see the book is ruled into a number of columns. Each

menting such a system on the computer is that as soon as there are more columns than those that will fit comfortably across the screen it is difficult and time consuming to enter the information into the relevant column as you cannot see all the columns as once. The system then becomes cumbersome and prone to error. Even the judicious use of titles (both horizontal and vertical) does not always make the task easier.

What I plan to do is to show you how to create a self posting spreadsheet that will do all the posting work for you and allow you to produce a professional result using only a few columns of your spreadsheet all of which will fit easily onto one screen of your computer.

The spreadsheet that we will create will work with either Lotus 123 (versions 2.0 and higher), VP Planner Plus and As Easy As (Version 3.01A). You may find that it will work on other spreadsheet programs but to get satisfactory results you will need to be able to suppress the display of zeros on the spreadsheet.

The spreadsheet to be created looks like the one in figure 2. The example will only use a few columns but it is the principle that I am concentrating on showing you. When you have mastered the technique you will be able to create your own spreadsheets limited in size only by the capacity of your spreadsheet program.

Comparing the example in figure 2 with the example of the manual system (fig. 1) you can see that an extra column has been added to the spreadsheet. This is the CODE column which contains an arbitrary code reference for each of the departments - Office is code 101, Sales is code 102 and Spare Parts is code 103.

To give you a working example I suggest that you type in the sample spreadsheet following each of the steps carefully and then when you have done this you may wish to experiment with the spreadsheet until you are familiar with its workings. You should then be able to create one for your own use.

I have assumed that you will have some skills in creating spreadsheets before you start. If enough readers are interested in a step by step introduction to spreadsheets for beginners then I will produce one, but for now I will assume that you can enter Labels (text) and Values (numbers and formulae) into your spreadsheet, that you can alter column widths, Format ranges of cells to currency and to a specified number of decimal places and that you know how to copy cells.

'IF STATEMENTS':

The basis of the spreadsheet is a number of IF statements that control the self posting part of the spreadsheet. The format of an 'if' statement is :-

IF TEST is true THEN do this ELSE do that.

For example if cell A2 contains the formula @IF(A1=0,10,20) the formula can be stated as "if the content of cell A1 is equal to zero then the content of cell A2 is to be 10 otherwise (if the content of cell A1 does not equal zero) the content of cell A2 is to be 20".

Try typing this formula into cell A2 of your spreadsheet and experiment with different values in cell A1 and see how the value shown in cell A2 (either a 10 or a 20) depends on whether or not the value of cell A1 is zero.

When you are familiar with the workings of an IF statement you are ready to progress to the sample spreadsheet.

The only columns that you will actually enter data into in the sample spreadsheet are the columns headed up DATE, CHQ. NO., CODE, AMOUNT and PAYEE. The other columns simply hold the formulae that perform the automatic posting.

A step by step guide to setting up this spreadsheet follows:-

1. Clear the worksheet space (/Worksheet Erase Yes)

2. Enter these headings into the cells:

- A2: DATE
- B2: CHQ. NO.
- C2: CODE
- D2: AMOUNT
- E2: PAYEE
- F2: OFFICE
- G2: SALES
- H2: SPARE PARTS
- G1: WAGES

3. Set the width of all the columns to 9 except column A which will need to be set to a width of 10 to show the dates properly.

4. Type the following formulae into cells F4, G4 and H4:-
 into cell F4 type @IF(C4=101, D4, 0);
 into cell G4 type @IF(C4=102,D4, 0);

into cell H4 type @IF(C4=103,D4, 0)

In column F the department type is Office and the code we have allocated to Office expenses is 101. If the content of the code cell in, say row 4, of the spreadsheet (C4) is 101 then the cell F 4 should contain the amount of the cheque i.e. it should contain the information from cell D 4. If the code is not 101 then the cell F4 should not contain anything ie it should contain Zero (0).

Let us look more carefully at the formula entered into cell F 4 i.e. @IF(C4=101, D4, 0). This formula looks at the content of cell C 4 and asks the question "is the content of cell C4

contents of cell F4 will be copied to cells F5, F9 and the formula in G4 will be copied to G5..G9 etc.

6. Format columns F, G and H to currency and two decimal places using / Range Format Currency 2 <RETURN> F4..H9 <RETURN>

Format column D to currency and two decimal places using / Range Format Currency 2 <RETURN> D4..D9 <RETURN>

7. Enter the data from fig. 2 into columns A, B, C, D. & E and watch how the formulae work to post the cheque amounts across into the relevant columns. Where no cheque amount is to appear in that cell then it

	A	B	C	D	E	F	G	H
1							WAGES	
2	DATE	CHQ. NO	CODE	AMOUNT	PAYEE	Office	Sales	Spare Parts
3								
4	02-Jul-88	32670	101	\$100.00	J.Brown	\$100.00		
5	02-Jul-88	32671	102	\$200.00	S.Smith		\$200.00	
6	02-Jul-88	32672	103	\$130.00	P.Jones			\$130.00
7	02-Jul-88	32673	101	\$140.00	C.Black	\$140.00		
8	02-Jul-88	32674	102	\$150.00	R.White		\$150.00	
9	09-Jul-88	32675	103	\$120.00	P.Jones			\$120.00

equal to 101"? If the answer is yes then cell F4 (the cell that contains the IF statement) is to contain the same figure as is entered into cell D4 (i.e. the cheque amount) and if not then it is to contain the value of zero.

The formulae in cells G4 and H4 do the same thing as the formula in cell F4 but each of those formulae 'look' for the code that represents the department that that column is to contain the information for. In cell G4 the formula is looking for the code 102 which is the code for Office and in cell H4 the formula is looking for the code 103 - the code for the Spare Parts department. In each case, if the code is found the cheque amount for that employee is posted to the relevant cell containing the formula and if the code is not found then a zero 0 appears in it.

To continue building the example spreadsheet:-

5. Copy the formula from cells F4, G4 and H4 to the corresponding cells in rows 5 to 9. This means that the

will contain a zero.

8. To suppress the display of zero in the cells and to show those cells as blanks use:-

for Lotus 123 -

- /Worksheet Global Zero Yes
- for VP Planner Plus -
- /Worksheet Global Zero Yes
- for As Easy As -
- /Worksheet Global Zero No

If you want to hide column C (the column with the arbitrary code in it) so that it does not either show on the screen or print :-

for Lotus 123 -

- use /Worksheet Column Hide C1
- <RETURN>

for VP Planner Plus and As Easy As - place the cell pointer in column C and set the width of the column to 0 with :-

- /Worksheet Column Set -
- Width 0 <RETURN>

I have found a lot of uses for the self posting spreadsheet and I trust that you will too.

FIG. 2

GUIDE TO MS-DOS

In this, the final article in his series, Peter Worlock looks at DOS for hard disc users

In this installment of our explorations of DOS, we'll be looking at DOS for hard disc users.

This isn't some other version of DOS that you'll need to acquire if you've bought a hard disc nor is it a special set of DOS commands that users of floppy discs haven't seen. By and large, DOS doesn't really care whether you're using floppies or hard discs- the same commands apply in either case.

What is different when you start using hard discs is the way in which you use DOS to manage your files. Since most technical articles like to use simple, everyday metaphors we'll use one here.

Moving from floppy to hard discs can be likened to switching from a bicycle to a car. You use the same roads and follow the same rules of the road. Learning to drive a car is arguably a bit simpler if you've ridden a bicycle because you're familiar with a lot of the basics: driving/riding on the left, stopping at traffic lights, who has right of way, etc.

Similarly, when you start using a hard disc it's simpler if you've used floppies before. Many of the commands are the same -DIR, COPY, DEL - and the basic principles, such as file name conventions don't change.

But in both cases what changes is the level or power, and the degree of complexity. In the metaphorical case, the car provides you with many more facilities with which you use and control that power. With DOS,

the tools are already there and floppy disc users can employ them if they wish; it's just that with a floppy disc most of those commands are not necessary.

These commands come into their own with hard disc, and most of them are geared to managing files - vast numbers of files.

There are only two fundamental differences between hard and floppy discs: speed and capacity. Hard discs are faster in use, and a typical 20 megabyte hard disc will store the equivalent of nearly 70 standard PC floppies. Which means your hard disc can hold thousands of files.

If you forget a file name on your floppy disc it's no problem to call up a directory listing and have a look for it. But on a hard disc, that approach could leave you watching in vain as file after file scrolls up the screen in a bewildering blur.

To avoid this, DOS provides a number of tools to help you sort your data into meaningful groups, and the fundamental tool is the directory.

Now if you've used floppy discs for a while, you may think you have a firm handle on what a directory is. Surely, you think, it's simply a list of all the files on a disc. Well, yes - but it can be more than that.

DOS allows you to put files into groups, and give each of these groups a name, and then to summon directory listings of the files in each group. DOS refers to these groups as directories. Moreover, from within a directory you can create sub-directories, and so on.

The top directory, the one that holds all the other directories, is called the root directory, and the collection of directories on your disc is called a directory tree - a useful metaphor provided you remember that this tree grows down from the root.

You can also think of the tree as a filing cabinet. The root directory is the cabinet itself. First level directories are the drawers, sub-directories are folders within the drawers, and disc files are documents that may be in folders, or loose in drawers, and

so on.

The advantages of this approach should be immediately obvious: it allows you to sub-divide your hard disc into the equivalent of lots of floppy discs, each compartment holding related files. For example you might create a word processing directory that holds only the files created by your WP program, or a programming directory that holds all of the program files you have written in Basic, or Pascal or assembler.

One clever aspect of this is that DOS makes the directories as big or as small as necessary, only allocating sufficient space to hold existing files. As you add to the directory, DOS makes it bigger. This means that your hard disc becomes much more than 70 floppies, because few of us cram floppy discs to capacity. We use separate discs for the data from different programs.

The first question, then, is how to create these useful directories. The DOS tool is the MKDIR command, which stands for MaKe DIRectory; it can be abbreviated to MD. To create a directory for your program listings, you issue the command:

```
MKDIR PROGRAMS
```

Now when you issue a DIR command on your hard drive, you'll see a listing of file-names that might look like this:

```
LETTER.DOC
SALES.DOC
CLIENTS.FIL
PROGRAMS (DIR)
```

The DIR in brackets tells you that this is not a file but a directory.

There are two ways to put files in your directories. The first lets you treat the directory in much the same way as you would treat a floppy disc, but it involves the new concept of pathnames. A pathname is a guide for DOS that tells it how to find its way through the directories.

The pathname for the file MYPROG.BAS in your new directory would be :

```
C:\PROGRAMS\MYPROG.BAS
```

So to copy another file from the floppy disc in drive A to the PROGRAMS directory on C, you would issue the command:

```
COPY A:YOURPROG.BAS
C:\PROGRAMS\YOURPROG.BAS
```

The second way is to make PROGRAMS the default directory. You do this with the CHDIR command (for CHange DIRectory, abbreviated to CD). Now any programs you write will automatically be saved into the PROGRAMS directory.

Let's go one stage further and create a sub-directory within PROGRAMS, this one for holding Pascal code. First you need to be in the PROGRAMS directory, so you type CHDIR PROGRAMS.

Then you create the sub-directory:

```
MKDIR PASCAL
```

Now if you ask for a directory listing you'll see this:

```
MYPROG.BAS
YOURPROG.BAS
PASCAL (DIR)
```

From the root directory, the pathname for a file in the new sub-directory is:

```
C:\PROGRAMS\PASCAL\MYPROG.PAS
```

Using the CHDIR command you can easily move between directories, but there's a problem with the root directory because it has no name. The solution here is to use the following constructions:

CHDIR.. which moves you one level up the tree.

CHDIR\ which takes you directly to the root level.

Keeping track of which directory you are in can be difficult where you have sub-directories nested to many levels. One solution is to issue the CHDIR command with no parameters and DOS will respond by telling you where you are.

The other method is to use the PROMPT command. This is a DOS command that lets you change the default prompt (usually A>, C> etc) to whatever you wish. One useful version is:

```
PROMPT $p$g
```

The \$p tells DOS to prompt you with the name of the current directory, while \$g gives the familiar > symbol. So in the case of our PASCAL sub-directory, the prompt would look like this:

```
C:\PROGRAMS\PASCAL>
```

instead of just:

```
C>
```

It is obviously crucial to know where in the directory tree you are. It's frustrating to issue the command

```
COPY A:*.DOC
```

thinking your DOC files are heading for one directory when they'll end up in another.

But it can be disastrous to do a DEL*. * thinking you're wiping a minor sub-directory when in fact you're in the root directory and have

the command RMDIR. For example, in the case of our PROGRAMS directory, you would have to use the following procedure. Assume you're in the root directory:

```
CD \PROGRAMS; move to
directory
DEL \PASCAL\*. *; empty sub-
directory
RMDIR PASCAL; remove sub-
directory
CD\; go back to root
DEL \PROGRAMS\*. *; empty
PROGRAMS
RMDIR \PROGRAMS; remove
directory
```

If you attempt to remove a directory that isn't empty, DOS will give you a relevant error message when you try the RMDIR command.

Although organising your data into directories has massive benefits, it can present problems. For example, we've already seen how you need to become familiar with

MOVING BEYOND MS-DOS

Although DOS provides commands that cover just about every aspect of managing your hard disc, they are general solutions and therefore suffer from occasional drawbacks, such as slow operation or lack of power.

The answer is to turn to third-party software. A large sub-section of the software industry does nothing but turn out tools for disc users and some of these products can be considered an essential purchase.

In general terms, products like PC Tools, the Mace Utilities, and File Rescue Plus provide welcome insurance against hard disc disaster, offering the ability to recover deleted files and directories. The first two will also provide a way to recover all your data after formatting your

hard disc! PC Tools is particularly recommended.

They are commercial programs costing up to \$250 (but worth every penny). However, there are many useful disc management tools available as public domain or shareware software.

For little more than the price of a blank disc you can acquire improved back-up and restore utilities, directory managers and file cataloguers, and text search routines that scan all of your hard disc files (much simpler than multiple TYPE commands).

Every hard disc user will need one or two of these additions. Which you need will depend on how much use your hard disc gets.

just wiped a bunch of important data and program files.

Fortunately, DEL won't affect other directories, even if you're in the root directory. DEL only works on files. However, this means that to remove directories you have to use a slightly longer process.

The first step is to empty the directory using the DEL command, and then remove the directory with

pathnames for tracking data through the directory tree, but DOS itself has a similar problem when it comes to the external DOS commands.

Readers of earlier articles will remember that DOS only holds a few commands in memory, while the others are called from disc when they are needed. However, DOS initially expects all of the external commands, like FORMAT and

XCOPY, to be in the working directory.

Suppose you have a directory, WORDSTAR, and a sub-directory, WSDOCS, and WORDSTAR is your working directory (you get there with CHDIR WORDSTAR). Now you want to copy all files from WSDOCS to a floppy disc in drive A. You issue the command:

```
XCOPY \WSDOCS\*. * A:
```

and DOS responds

```
BAD COMMAND OR FILENAME
```

You might think there's a problem with the \WSDOCS*. * part of the command (bad filename) but in fact the trouble lies with XCOPY. DOS expects it to be in the working directory, WORDSTAR, when in fact, it's in your root directory.

You can work around this by switching directories and repeating the command, but a more satisfactory solution is to have DOS do the work for you. The answer is the PATH command.

PATH allows you to specify a pathname through which DOS can search for the external commands, and you can make it quite complex. For example,

```
PATH C:\C:\DOSTOOLS ; A
```

tells DOS to first search the working directory, then to search the root directory on the hard disc (the C:\ part) then to search the DOSTOOLS directory, then to search the floppy disc in drive A.

Without doubt, the biggest requirement for a hard disc user is to keep regular backups of your data.

The discussion so far has probably convinced you that the potential for disaster is much greater than with a floppy disc; for example, you'd need nerves of steel to do a DEL *.* from within a directory without flinching. There's always a fear that you're not in the right directory.

DOS provides the minimum help with the BACKUP command. As the name suggest, this allows you to back-up files from your hard disc to either floppies or another hard disc. Since few of us are blessed with two hard discs, we'll assume the use of a floppy disc in drive A (although you'll almost certainly need more than one floppy disc).

At its simplest, BACKUP takes the following form:

```
BACKUP C: A:
```

which will copy all files from the hard drive root directory to drive A. In order to back up other directories, use the /s switch:

```
BACKUP C: A: /s
```

However, this is probably a case of over-kill. For one thing, there's no point in backing up your application software because you should have the master discs safely locked away somewhere. For another thing, you probably only want to copy those files that have changed since your last back-up.

To overcome the first problem, you can specify a pathname for sub-directories on your hard disc. If you keep all of your data files in their own directories, the problem is solved. For example, if you use Wordstar, keep your Wordstar

documents in a directory called, say, WSDOCS. Then to back-up only those data files, use :

```
BACKUP C:\WSDOCS A:
BACKUP C:\WSDOCS A: /m
```

Obviously this requires that you use the same set of discs each time you use BACKUP.

Another useful feature of BACKUP is its ability to create file archives. By using the /a switch, you can add subsequent versions of files to your back-up discs rather than have them erased and over-written each time. This means that you have access to earlier versions of documents - especially useful for early drafts of long word processing documents, database files, mailing lists and so on.

Obviously getting files off your hard disc is only half the job - you need a way of getting them back, and the RESTORE command does this. The syntax is identical to BACKUP and the same switches apply with one exception: /n restores only files that no longer exist on your hard disc. So:

```
RESTORE A: C:\WSDOCS /n
```

will replace any files from WSDOCS that have been deleted since the last back-up of your files.

Although DOS provides the tools for managing your hard disc, it can sometimes be tortuous to use them every time you power-up your PC. But there is a way to have DOS do certain tasks automatically. But batch processing is an other story for another time.



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Our first MASTERFILE PC was limited to memory-resident file size, but it has now been extended to handle files up to 16MB without losing the flexibility of variable-length data. Yet the same program can be used with just a single floppy disc drive, file size being limited only by disc capacity.

What seems to most impress MASTERFILE PC users is that there is no need to set field lengths, and it is so easy to change file structures and screen formats without having to re-enter data. We quote some early reviews:

"Surprisingly good performances, easy to get up and use." (PC User)

"A cinch to find data ... very flexible ... how little it takes to get started." (Personal Computing with the Amstrad)

Those quotes are from reviews of the earlier PC version, with RAM-limited file capacity. MASTERFILE PC is now even more powerful, and still growing - except for the price.

APPLICATIONS

• Address Lists • Sales Ledger • Bought Ledger • Insurance Inventories • Labels • Personnel Records • Invoice Records • Stock Control • Patient Files • Job Progress • Price Lists • Bibliographic Index • Bank Statement • Shares Portfolio • Photographic Index • Catalogues • Property Details • Engineering Data • Hobbies

FEATURES

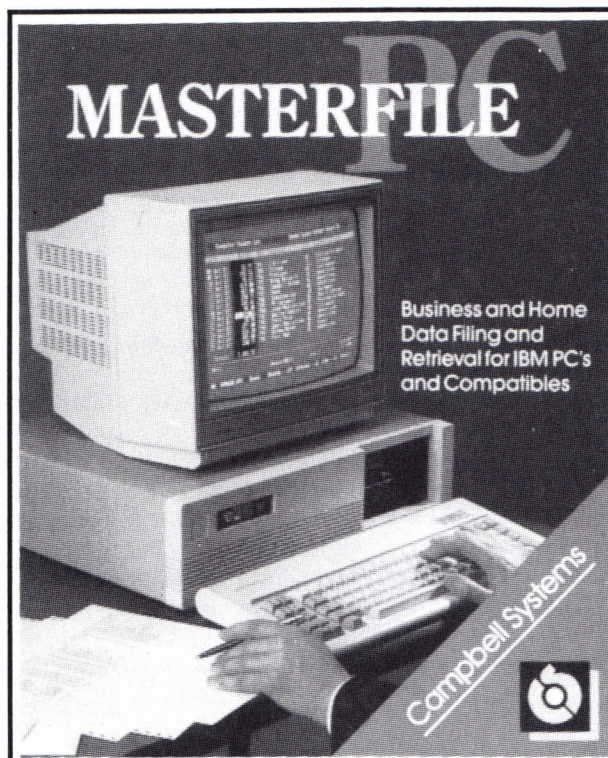
ENVIRONMENT	MS-DOS ver 2.0 or later, 80-column screen colour/mono, minimum RAM 256K, minimum disc = 1 floppy drive. Install in seconds
POWER	Machine-coded throughout for speed and efficiency
CAPACITY	Up to 16MB/32768 records per file
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SPLIT	Save any sub-set as a separate file
DATA	Character or Numeric or Date (choice of styles)
ATTRIBUTES	
MULTIPLE VIEWS	Up to 32 user-designed screen/print formats
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CLS, COMMAND AND NEW PD

There's new compression software out, new ega discs, archiving programs and Chris Collins knows all about it. Also discussed are the COMMAND and CLS commands.

Hello out there, and welcome once again to the monthly column that tries to inform you of interesting things in the PC world. We have a lot to get on with this month, including the release of two new EGA diskettes, another Archive Tools diskette with the latest PDWare program and much more.

Not much news for this month, unless you are into data compression. Phillip Katz of PKWare has finally released his new compression method. Phil Katz was the author of PKARC and PKXARC, and he has now produced PKZIP and PKUNZIP. These new programs will give you the files sizes of PAK, but with the speed of all PK products. More about this later.

The two commands that we will look at this month are CLS and COMMAND. The reason for two commands are quite simple, it will only take me about two lines to describe CLS. So let's get on with it.

CLS AND COMMAND

CLS is an internal DOS command that exists in COMMAND.COM. It is used to CLear the Screen. Simple as that. If you have set-up colours different from white on black, and saved them with NVR, they will still stay in effect after a CLS.

So I lied a little bit, it actually took me seven lines to describe CLS. So I'm not perfect.

The second command for this month is COMMAND. This is used if you want to start a secondary

command processor. I'm not quite sure what use a secondary command processor is, but I do know that it will allow you to execute a set of commands without it affecting the first program that is being used. When you use a DROP TO DOS option in something like Telix, this is what is occurring.

The correct syntax is as follows;

```
COMMAND (d:)(path)(/P)(/C string)(/E:xx
xxx)
```

(d:)(path) is the drive and path that DOS searches to find a copy of COMMAND.COM. If it cannot find it there, DOS will search the PATH in your environment for COMMAND.COM. Usually, it will be found in your root directory.

(/P) will cause the new copy of COMMAND.COM to become permanent. This means that you won't be able to return to your application without rebooting your machine.

(/C string) allows you to pass a *string* to the second command processor, and then automatically exit back to the primary command processor. String can be any normal DOS command, or a program that requires no interaction. For example:

```
COMMAND /C dir b :
```

will cause COMMAND.COM to be loaded, execute the command dir b: and then exit back to the original (or primary) command processor.

(/E:xxxxx) is a base 10 integer that you can use to specify the environ-

ment that is to be used by the new command processor. This number must be in the range of 160 to 32768. If you do not use this option, the secondary command processor will use the environment settings as listed by your primary command processor. So if you have your prompt set to \$P\$G\$G in your primary command processor, \$P\$G\$G is what you will get in the secondary command processor. However, you can change this without affecting the primary command processor. If you attempt to use /P and /C together, the /P parameter will be ignored.

ARCHIVE TOOLS 3

Okay, now onto this month's diskettes. First of this month is Archive Tools 3. This diskette includes an early version of PAK, 9 utilities that deal with ARC files, a front end menu for PAK and the new PKWare program PKZIP.

A quick run-down on each of the programs follows;

ARCCOMP.ZIP:- A small utility to compare to ARC files and see where they match or differ. This is set-up to use PKARC/PKXARC.

ARCDIV.ZIP:- This one will copy a selection of files from one archive to another archive, without extracting them from the first.

ARCDMP.ZIP:- This program is very similar to the small utility called FILL.EXE. except that it works on ARC files. It will pull the maximum number of files that will fit on one diskette from an archive, and create a new archive on the diskette. It will then repeat the operation until the complete ARC file has been copied.

ARCFIND.ZIP:- Used to search all files in an archive file for specific text strings.

ARCIT.ZIP :- ARCIT is a batch file and a couple of programs that will take any LBR or LQR file or group of files, and convert them into ARC files. Only useful if you still have old library files. Only included in case you happen across a collection of LBR files somewhere.

ARCRUNNER.ZIP:- This is a fantastic little utility that will allow

you to run programs from inside an archive file, without having to extract them first. It has been designed for use with PKARC/PKXARC. A great way to save space on your hard disc, by having a whole heap of small utilities in one archive file, and running them from there.

ARCSWEEP.ZIP:- This is a very useful utility for those of us with hard discs (which should be all of you). Most people dump their archive files in one directory, and un-arc them there. Unfortunately, this means that you will have a collection of files where you are not sure of their original archive file. This program will go through a single archive file, or a global list of files, and compare the filedate, filetype and filename of the files in the archives with any loose files in that directory. It will then ask you whether you wish to delete the file. If any part of the above list does not match, the file will not be deleted. Good utility for housekeeping.

ARCTOOLS.ZIP:- A small collection of utilities that will attempt to get as much data as possible from a damaged archive file. Probably the world's slowest programs, but if you only have one copy of an archive with a lot of required information, it may save your bacon.

ARCTOOLS.ZIP:- Four small utilities to replace ARC.EXE. These are listed below:

ARCA:- Fast archive utility. Equivalent to ARC A

ARCE:- Fast extract utility. Equivalent to ARC E

ARCV:- Fast verbose list utility. Equivalent to ARC V, and

MARC:- Moves archive elements to another archive file.

PAKMENU.ZIP:- This is a front end menu system for PAK, either version 1.0 or 1.6. Very good with pull down menus, and well executed. Has a menu for utilities not yet implemented, but overall it makes using PAK so much easier.

PAK10.ZIP:- This is the first implementation of PAK. It is included in case you find a PAK file that was

compressed with PAK10. They will not always extract with PAK16 correctly. Both can be used with PAKMENU.

PKZ092.EXE:- This is the new Phillip Katz product. PKZIP/PKUNZIP are the latest and best of the archive utilities. All new file type and design (ZIP), but also the compression of PAK with the speed of PKARC/PKXARC. If you want even less speed (slow down to PAK speed), you will get even better compression. Also include PKZIPFIX in case you happen to get a faulty ZIP file to recover. Fantastic!! As I create new diskettes for you, or get new versions of older diskettes, you will find that all of my diskettes will be going to this method of compression. Archive Tools 3 is the first of these new diskettes. Well worth registration.

That's basically all there is to say about Archive Tools 3, look forward to Archive Tools 4!

EGA SOFTWARE

For all you EGA fiends, we now present EGA Demo Disc 2, and EGA Games Disc 3. To start with we will look at EGA Demo Disk 2, and the files are as follows:

CHEMVIEW.ZIP:- This is a graphic program that shows the molecular structures of some chemicals. The most common one is water, with a few more complicated ones thrown in to show off the EGA's capabilities. Very good.

CONFETTI.ZIP:- This is a full colour demonstration from IBM. It allows you all the control necessary for you to set up anything you wish. Allows mirror operation, distance between objects, shape, colour of background and almost anything else you like to name. Excellent.

FANTAMOV.ZIP:- This is a screen graphics demonstration using full colour screens and animation. Has to be seen to be believed. Be sure to run PLSETUP.COM before running PLAYER.EXE or you could be disappointed with the results.

FUSE.ZIP:- Really excellent kaleidoscope program. Will run on either CGA, EGA or VGA screens. Has to

be seen to be believed.

SPLAT.ZIP:- Came from EGA Demo Disc 1 when I put the new help file on all the diskettes. I won't describe it, otherwise you won't look at it, and you will miss a really good demonstration.

TEAPOT.ZIP:- Line drawn teapot in very high resolution. Also rotates! Computations involved in this one are enormous.

That's about all there is for EGA Demo Disc 2. Please watch and enjoy! EGA Games Disc 3 has the following games for you to play:

DEFENDER.ZIP:- This is the same as the arcade version. Difficult to play, but very addictive.

EGASORRY:- This is a copy of the Parker Brothers game SORRY. Unfortunately, I don't know the original game so I can't comment on how accurate it is, but it was good fun to play.

SCRABBLE.ZIP:- This is an excellent implementation of Scrabble. Only problem is that it must be on a boot disc, as it requires all available memory. It's fun, although it's only one person against the computer.

STOCKS.ZIP:- This is a reasonable game giving an idea of how a stock market works. And that's about all there is for EGA Games Disc 3. Maybe more later.

A lot of people still seem to be having trouble with the new pricing structure, so I've decided to change it. Any diskettes that you purchase from now on will cost \$7.50 each. No postage charges or other fees. If you purchase three diskettes, which appear to be the norm, it will cost you the same amount as before. Less than three per order, and it is less than before. I hope that this will clear up the problems regarding the correct amount of money to spend.

If you wish to purchase the diskettes in 3.5" format, specify two diskettes and pay only \$15.00 per 3.5" diskette.

Well, that's about all for this month. I hope to have some educational games and that special for all the Mean18 fans for next month. Until then, Happy Computing!

ADVENTURER'S ATTIC

Philip Riley this month completes his discussion on the new encoder/ decoder program.

So here we go again from where we left off last month. This month we are taking a look at the first of the programs that concern encode/decode, the input program. The program is written in basic as is next month's program. It is the third program to be written in machine code (at least it will be if I've finished it by then).

So on with this month's program. As I said it is an input program and is merely used to input game location details into the computer, it does not encode the data - it just saves it to disc or tape.

Now how does it work? To tell you the truth, I wish I knew - it is several months since I wrote this program and I have totally forgotten how it works. Still, we have the printout in front of us, so let's have a look and see if we can figure it out.

Line 10 lowers HIMEM to 20000 and sets up our start address for poking data into memory and the location number (do not worry if at this time you do not understand anything about HIMEM or poking. I will introduce you to these before we look at any machine code).

Lines 20 to 40 are obvious.

Lines 50-130 check for special inputs (these will be explained in the "how to operate this program" section of the column).

Line 140 checks if you have made an illegal entry.

Lines 150-190 poke your location data into memory and set you up for the next input.

Line 200 should not even be there as it is no longer used (it was put there when the program was being developed to stop the computer running off into parts of the program that it had no right to be in at that time).

Lines 210-240 load and save a block of memory to disc or tape. Do not try loading or running this file on its own as it will do nothing at all.

Lines 250-270 search through memory for a specific piece of data.

Lines 280-350 add more location data onto the end of data that has already been inputted into the computer.

Lines 360-390 prints the present location to the screen for you to verify.

Lines 400-580 allows you to change the data in the computer or move to the next unused location.

Now the important bits. How to operate the program. First of all you will need a map of your game like the one in figure 1. The numbers on the map are your location numbers and must correspond to the numbers printed by the program. When you first run the program you will be presented with the words LOCATION #1. So type in your description of location one and press <ENTER>. You now

have location 1 in the computer's memory and are ready to input location 2. If you have a blank as we have in location 6 on the map just press <ENTER> and you will be straight onto the next location number.

If you wish to move forwards or backwards to a location type in @ and the location number (i.e.@4 to go to location 4). Please note that you can only go to a location that has already been typed in or passed using the <ENTER> key.

If you wish to look at a location description, go to the location and press "v". The data will be printed to the screen, press any key to return to normal operation.

Pressing "g" will do a garbage collection of string variables, you are advised to do this once in a while to keep the free memory as free as possible.

To change the location data completely, go to the location you wish to change, type in "c" and you will be asked to enter the new data. Do this and press <ENTER>.

To add more onto the end of a piece of data, go to the location and type in "a". The program will print the current data onto the screen and then ask you to add the new data. Do this and press <ENTER>. Please note that if you've made a mistake in the data it is impossible to change it. You'll have to change it using the "c" command.

If you have gone back to change or look at a piece of data and then want to go onto the next unused location number, press "f".

Press "l" and "s" to load and save your data. Please remember to save your data before you switch off the computer or erase the program from memory.

Press "e" to end the program.

Please note that you must also press the <ENTER> key to activate the above commands. Also if you have a long location you may have to do it in two parts using the "a" command as you are limited to the LINE INPUT length of characters.

At some time you may get stuck in location 1 if you are experimenting with the program and have not inputted other location descriptions. If this is the case, press "f" and you will be out of the dilemma.

When inputting data do not worry where the words are on the screen as the decode routine will have a word wrap function to take care of any problems like words that start on one line on the screen and finish on the next.

Well, that just about wraps it up for this month, and because no one has ended their letters in an interesting way this month the column does not have its usual end, so I will just say goodbye until next time.

```
10 LO=1:PO=42600:MEMORY 20000
20 CLS
30 PRINT"LOCATION #":LO
40 LINE INPUT a$
50 IF LEFT$(a$,1)="@" THEN LO=VAL(RIGHT$(a$,LEN(a$)-1))
:GOSUB 250:GOTO 20
60 IF a$="v" OR a$="V" THEN 360
70 IF a$="g" OR a$="G" THEN a=FREE(""):GOTO 20
```



```

80 IF a$="f" OR a$="F" THEN 550
90 IF a$="c" OR a$="C" THEN 400
100 IF a$="e" OR a$="E" THEN END
110 IF a$="s" OR a$="S" THEN 210
120 IF a$="l" OR a$="L" THEN 230
130 IF a$="a" OR a$="A" THEN 280
140 IF PEEK(PO)<>0 THEN PRINT"ILLEGAL ENTRY":SOUND 1,500,150,7:FOR y=1 TO 1400:NEXT:GOTO 20
150 POKE PO,35:PO=PO-1:POKE PO,LO:PO=PO-1
160 FOR t=1 TO LEN(a$)
170 IF PEEK(PO)=0 THEN POKE PO,ASC(MID$(a$,t,1)):PO=PO-1:GOTO 190
180 PRINT"ILLEGAL ENTRY":SOUND 1,500,150,7:t=LEN(a$):FOR y=1 TO 1400:NEXT
190 NEXT:LO=LO+1:GOTO 20
200 END
210 SAVE"data",b,22600,20001
220 GOTO 20
230 LOAD"data",22600
240 GOTO 20
250 tt=42600
260 IF PEEK(tt)=35 AND PEEK(tt-1)=LO THEN PO=tt:RETURN
ELSE IF PEEK(tt)=0 THEN 270 ELSE tt=tt-1:GOTO 260
270 PRINT"Location not found":LO=1:PO=42600:SOUND 1,500,150,7:FOR t=1 TO 1200:NEXT:RETURN
280 PO=PO-2
290 c=PEEK(PO):IF c=35 THEN PRINT:GOTO 300 ELSE PRINT C HR$(c)::PO=PO-1:GOTO 290
300 LINE INPUT"INPUT ADDITION ",a$
310 c=LEN(a$):OP=PO
320 IF PEEK(OP)<>0 THEN OP=OP-1:GOTO 320
330 OP=OP+1
340 POKE OP-c,PEEK(OP):OP=OP+1:IF OP=PO+1 THEN 350 ELSE 340
350 FOR t=1 TO c:POKE PO,ASC(MID$(a$,t,1)):PO=PO-1:NEXT:GOTO 20
360 OP=PO-2
370 IF PEEK(OP)=35 OR PEEK(OP)=0 THEN 380 ELSE PRINT CHR$(PEEK(OP));:OP=OP-1:GOTO 370
380 PRINT:PRINT"Press any key"
390 IF INKEY$=""THEN 390 ELSE 20
400 OP=PO-2:c=1
410 IF PEEK(OP)=35 OR PEEK(OP)=0 THEN 420 ELSE c=c+1:OP=OP-1:GOTO 410
420 PRINT"INPUT NEW LOCATION #";LO
430 LINE INPUT a$
440 a=LEN(a$):IF LEN(a$)>c THEN 460 ELSE IF LEN(a$)<c THEN 490
450 PO=PO-2:FOR t=1 TO LEN(a$):POKE PO,ASC(MID$(a$,t,1)):PO=PO-1:NEXT:IF ll=1 THEN 500 ELSE 540
460 cc=a-c:oo=OP
470 IF PEEK(oo)=0 THEN 480 ELSE oo=oo-1:GOTO 470
480 POKE oo-cc-1,PEEK(oo):oo=oo+1:IF oo=OP+1 THEN 450 ELSE 480
490 ll=1:GOTO 450
500 OP=PO:ll=0
510 IF PEEK(OP)=0 THEN 530 ELSE IF PEEK(OP)=35 THEN 520 ELSE OP=OP-1:GOTO 510
520 POKE PO,PEEK(OP):PO=PO-1:OP=OP-1:IF PEEK(PO)=0 THEN 540 ELSE 520
530 IF PEEK(PO)=0 THEN 540 ELSE POKE PO,0:PO=PO-1:GOTO 530
540 IF PEEK(PO)=35 THEN LO=PEEK(PO-1):GOTO 20 ELSE PO=PO+1:GOTO 540
550 IF PEEK(PO)=0 THEN 560 ELSE PO=PO-1:GOTO 550
560 OP=PO
570 IF PEEK(OP)=35 THEN 580 ELSE OP=OP+1:GOTO 570
580 LO=PEEK(OP-1)+1:GOTO 20

```

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Seabase Delta, Message From
Andromeda, Leather Goddesses
of Phobos, Everyones a Wally,
Pyjamarama, The Boggit, Robin
of Sherwood, Sorcery+, Shogun,
Academy, Knight Tyme, The
Wild Bunch.

Hint Sheet

LEISURE SUIT LARRY in the LAND OF THE LOUNGE LIZARDS

by S. Pillay

OBJECTIVE:

to have a good time and meet the girl of your dreams!

BASIC TIPS:

- type LOOK with every new screen. Visible items not described usually aren't important.
- be nice to the destitute you encounter.

LOCATIONS:

hail a taxi and talk to the cabbie:

Convenience Store:

- Things to buy:
- reading material.
 - read the sign.

Outside:

- EXAMINE the phone.

The Bar:

Closed door a problem?

The Washroom:

- read the graffiti a few times to open up new avenues.
- check the sink.

TV room:

a remote chance of shifting the big guy.

Upstairs:

You don't have to, you know. Just get one item here and exit right. Oh, all right, if you must... (but do take precautions!).

Alley:

- What's in the east window? Can you get it?
- You've bin in worse places! Dig, man?

The Casino:

Making money:

You're expected to cheat. Namely, keep saving the game if you win at the tables, or restoring it if you lose. Keep going until you break the bank - you'll need every cent.

Elevator Lobby:

- The phone's useless.
- One man's pass is another man's refuse.

Fourth floor:

- a room stands out. Important later.

Eighth floor:

- "Medical Stimulant"? Seen one anywhere?

Outside:

- Keep the doctor away.

The Disco:

LOOK/ TALK/ DANCE with this gal. She wants 3 items.

The Honeymoon Suite I:

Some music should hit the spot.

The Honeymoon Suite II (much later):

Your problems tying you up? Scream and cut loose! Once back in the black, read your magazine and return to tackle two unsolved problems.

The Penthouse Level:

If the coast is clear check the desk.

The Penthouse:

- Before going out to the porch, go

behind the partitioning wall - there's anything but a skeleton in the closet.

- Is she tongue-tied? Read her towel and give her something! You're home!

THINGS TO DO/SEE:

Chat with the barflies. Music would be nice. Have a drink or two. Use the toilet. Stand around on the street to dirty your shoes. Read your cards right and use the phone. Pop into the cabaret at different times; there are two separate acts to catch and you seat is reserved here. Knock on the hotel doors. LOOK/ TALK to the guy outside the chapel. On the penthouse roof, LOOK at the city. LOOK at different parts of your playmates.

THINGS TO DO/ SEE ONLY

AFTER SAVING: Have several drinks. Cross the street. Don't pay people to whom you owe money. Flush the toilet. Give the cabby some wine. Don't take precautions. Take the pills yourself.

This is our eleventh Hint Sheet and earns S. Pillay a cheque for \$25. Now that you have the format the sheet should take, why not cash in your experience and send your solutions (don't give the whole game away) to:

*The Editor (Hint Sheets),
The Amstrad User,
641 High Street Road,
Mount Waverley, Victoria. 3149.*



THE AMSTRAD USER

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Who Dares Wins/Spitfire 40	22.00	17.00

BLOCKBUSTER BUDGETS

Ace of Aces	19.95	12.95
Activator	19.95	12.95
Avenger	19.95	12.95
Battle Valley	-	12.95
Bobby Bearing	19.95	-
Bounder	19.95	12.95
Brainache	-	12.95
Brian Bloodaxe	19.95	-
Core	-	12.95
Dream Warrior	19.95	12.95
Forbidden Forest	-	12.95
Future Knight	19.95	12.95
Gauntlet 1	19.95	12.95
Glass	19.95	-
Gunsmoke	19.95	12.95
Highway Encounter	-	12.95
Hydrofool	-	12.95
Jack the Nipper	19.95	12.95
Laser Tag	19.95	12.95
Lightforce	-	12.95
Metal Army	-	12.95
Metrocross	19.95	12.95
Monty on the Run	19.95	12.95
Ocean Conqueror	-	12.95
Shackled	19.95	12.95
Shockway Rider	-	12.95
Storm	-	12.95
Tanium	-	12.95
Tau Ceti 1	19.95	12.95
Tenth Frame	19.95	12.95
Thing on a Spring	19.95	12.95
Trailblazers	-	12.95
Uridium Plus	-	12.95
Westbank	19.95	12.95

COMPILATION PACKS

Arcade Force 4		
<i>with Road Runner, Metrocross, Gauntlet and the Deeper Dungeon, and Indiana Jones and the Temple of Doom</i>	49.95	39.95
Daley Thompson's Olympic Challenge (not 664s)		
<i>10 Decathlon events</i>	49.95	39.95
Elite Collection		
<i>with Bomb Jack I and II, Frank Bruno's Boxing, Commando, Airwolf, Paperboy, Ghost 'n' Goblins, Battleships</i>	49.95	39.95
Elite Six-Pack - Vol 1		
<i>with Shockway rider, Eagle's Nest, ACE, Batty, Int. Karate and Lightforce</i>	39.95	34.95
Elite Six-Pack - Vol 3		
<i>with The Living Daylights, Ghost 'n' Goblins, Paper Boy, Dragon's Lair, Escape from Singes Castle (on tape only) and Enduro Racer</i>	39.95	34.95
Fists 'n' Throttles		
<i>with Thundercats, Ikari Warriors, Dragon's Lair, Enduro Racer and Buggy Boy</i>	39.95	34.95
Flight Ace		
<i>with Air Traffic Control, ACE, Spitfire 40, Strike-force Harrier, Tomahawk, ATF</i>	49.95	39.95
Game, Set and Match II		
<i>with Super Hang-on, Basket Master, Ian Botham's Test Match, Championship Sprint, Steve Davies Snooker, Match Day II, Nick Faldo's Open and Track & Field events</i>	49.95	39.95

CPC - continued

Giants		
<i>with Gauntlet II, Outrun, California Games, 720° and Rolling Thunder</i>	49.95	39.95
Gold, Silver, Bronze		
<i>Three discs or tapes containing Summer Games 1 and 2 and Winter Games</i>	59.95	49.95
In Crowd		
<i>compilation with Karnov, Gryzor, Barbarian, Platoon, Combat School, Crazy Cars, Target Renegade and Predator</i>	-	39.95
Karate Ace Compilation		
<i>with Way of the Exploding Fist, Bruce Lee, Kung Fu Master, Avenger, Samurai Trilogy, Uchi Mata etc.</i>	49.95	39.95
Konami Arcade Collection		
<i>with Shao-Lin's Road, Jail Break, Mikie, Yie Ar Kung Fu I and II, Hypersports, Green Beret, Nemesis, Jackal and Ping Pong</i>	49.95	39.95
Leaderboard Par 3		
<i>with Leaderboard, Leaderboard Tournament, and World Class Leaderboard</i>	52.95	42.95
Live Ammo Compilation		
<i>with Green Beret, Rambo, Top Gun, Army Moves & Great Escape</i>	49.95	39.95
Magnificent Seven Compilation		
<i>with Wizball, Short Circuit, Arkanoid, Head over Heels, Great Escape, Cobra, Franki goes to Hollywood + FREE Yie Ar Kung Fu</i>	49.95	39.95
Space Ace		
<i>with Venom strikes back, Xevious, Cybernoid, North Star, Zynaps, Trantor and Exolon</i>	49.95	39.95
Straight Six		
<i>Loriciel's compilation with 3D Fight, Billy, Soccer, MGT, Flash and ZOXX2099</i>	29.95	19.95
Supreme Challenge		
<i>compilation with Elite, Sentinel, Tetris, ACE II and Starglider</i>	49.95	39.95
Taito's Coin Op Hits		
<i>with Rastan, Arkanoid 1, Arkanoid 2, Slap Fight, Bubble Bobble, Legend of Kage, Renegade and Flying Shark</i>	-	39.95
TAU Games + (6128s only)		
<i>Dominoes, Snakes and Ladders, Mah-Jong, 3-D Noughts & Crosses, Trucking, Tycoon plus Graphic Designer and Sprite Designer</i>	32.95	-
Ten Great Games Vol III		
<i>with Iridis Altha, Tenth Frame, Firelord, Ranarama, Fighter Pilot, Leaderboard, Rebounder, Alley Cat, Eagles and Last Mission</i>	-	39.95
Ten Mega Games Vol 1		
<i>with North Start, Cybernoid, Deflektor, Triaxos, Blood Brothers, Mask 2, Tour de Force, Hercules, Blood Valley, Masters of the Univ.</i>	-	39.95
Time and Magik trilogy (disc for 128k only)		
<i>Lords of Time, Red Moon and Price of Magik</i>	49.95	45.95
We are the Champions		
<i>with Renegade, Barbarian, SuperSprint, Rampage and International Karate</i>	49.95	39.95

AMSTRAD USER YEAR DISCS

<i>Containing all the monthly type-ins published</i>		
Year Disc 1 - Issues 1 to 12	50.00	-
Year Disc 2 - Issues 13 to 16	22.50	-
Year Disc 3 - Issues 17 to 20	25.00	-
Year Disc 4 - Issues 21 to 24	25.00	-
Year Disc 5 - Issues 25 to 28	25.00	-
Year Disc 6 - Issues 29 to 32	25.00	-
Year Disc 7 - Issues 33 to 36	25.00	-
Year Disc 8 - Issues 37 to 40	25.00	-

CPC - continued

Year Disc 9 - Issues 41 to 44	25.00	-
Year Disc 10 - Issues 45 to 48	25.00	-
<i>Separate tapes for each issue's type-ins are also available: each</i>		
		5.00

SERIOUS SOFTWARE

Advanced Art Studio (Rainbird)		
Graphics package (128k only)	69.95	-
Brainstorm - ideas and reporting system(6128s only)	99.00	-
Cardbox - card index system (6128s only)	129.00	-
Cardbox Plus - enhanced version of Cardbox (6128s only)	199.00	-
Expendiport - cheque management and analysis system	39.95	-
Extra Extra - a disc full of ready made graphics, fonts and clip art compatible with AMS Stop Press	89.00	-
Masterfile III - the best relational database system (128k only)	109.00	-
Mastercalc 128 - spreadsheet program for 6128s (or 464 with disc drive and memory expansion)	99.00	-
Matrix - spreadsheet with text editing facilities, database, mail merging etc.	79.95	-
Mini Office II	59.00	49.00
Money Manager - powerful cash book program	59.95	-
OCP Art Studio (Rainbird)		
Graphics package similar to 'Advanced' but without Mode 0 facility (128s only)	59.95	-
Personal Excellence Package - High quality Mental performance analyser	109.00	-
Plan-It - desktop organiser	39.95	-
Print Master Plus - create your own Banners, Letterheads, Signs, Calendars or Greeting Cards with graphics or borders supplied. (Runs under CP/M Plus only)	59.95	-
Protexit - high speed w/p	89.95	-
Protexit Filer - pop-up database module for Protexit. (Requires Promerge & Protexit)	69.95	-
Protexit Office - pop-up add-ons for Protexit including mailmerge and invoice generator. (Needs Promerge & Protexit)	99.95	-
Prospell - spell checker	79.95	-
Promerge - mail merger	79.95	-
Stockmarket - monitors shares etc.	49.95	-

STOP PRESS from AMS

The ultimate Desktop Publishing package for CPC owners. Combine text and graphics with 'what you see is what you get' facilities. The ideal publishing software solution for home enthusiasts, schools, societies and small businesses. (Stop Press needs 128k)

Stop Press (disc only)	159.00
With AMX MkIII Mouse	289.00
Extra Extra clip art	89.00

Tasword 464	-	48.00
Tasword 464/D	63.00	-
Tasword 6128	63.00	-
Tas-spell	45.00	-
Tasprint	36.00	26.00
Tascopy	36.00	26.00
Tasdiary	36.00	-
Tas-sign	69.00	-
Touch 'n' Go - Typing tutor (6128s only)	69.00	-

CPC - continued

Ultrabase - easy database	69.95	49.95
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EDUCATIONAL

From SCHOOL SOFTWARE

Play School (3-7)	29.95	22.95
Magic Maths (4-8)	29.95	22.95
Maths Mania (8-12)	29.95	22.95
Better Maths (12-16)	29.95	22.95
Maxi Maths (12-16)	29.95	-
Physics (12-16)	29.95	22.95
Better Spelling (9-99)	29.95	22.95
Chemistry (12-16)	29.95	22.95
Biology (12-16)	29.95	22.95
Weather/Climate (12-16)	29.95	22.95

From LCL SOFTWARE

Micro Maths (9-11)	59.95	49.95
Mega Maths (9-11)	59.95	49.95
Micro English (9-11)	59.95	49.95
Primary Maths (7-11)	79.95	49.95

From FERNLEAF SOFTWARE

(Developing Reasoning, Logic, Estimating and Forward Planning skills).

1. Treasure/Perfume Hunter (7-10)	49.95	39.95
2. Fletcher's Castle/Raider(8-12)	49.95	39.95
3. Thorn Sea/Ferry Captain (9-13)	49.95	-

From FUN SCHOOL: three discs in the series each containing 10 educational programs.

Vol 1 - ages 2 to 5	29.95	-
Vol 2 - ages 5 to 8	29.95	-
Vol 3 - ages 8 to 12	29.95	-

(All reviewed Issue 48 - Jan '89)

The Magic Sword - Full colour reading book and complementary child's adventure 39.95 -

Three Bears - graphic adventure to improve logic, deduction and reasoning 34.95 -

PERIPHERALS

AMX MOUSE Mk III - with superior ball technology and high resolution movement this updated mouse from AMS gives total control and flexibility, and compatibility with AMS Stop Press. Comes with an interface for CPC owners 150.00

COMPUTER/TV MODULATOR CONVERTER

This Amstrad unit (MP3) allows a CPC colour monitor to be used as a colour television - all you need to connect is a TV aerial to watch your favourite stations 149.00
(Please add \$7.50 for certified post & packing)

KEMPSTON MOUSE - comes complete with Blueprint, a comprehensive graphics package 199.00

MOUSE MATS - keeps Mouse clean (Blue) 19.95

64k Memory Expansion (464/664)

Converts the 464 into a 6128 (except for the ROMs) and gives 128k of memory. Is supplied with bank switching software in the form of RSXs to use the second 64k RAM as storage for screens, windows, arrays and variables. Allows the use of CP/M Plus as supplied on the 6128. 149.00

256k Memory Expansion (464/664)

Converts the 464 into a 6128 (except for ROMs) and gives a total memory of 320k. Is supplied with bank switching software in the form of RSXs. The 256k can store 16 full 16k screens or four extra banks of 64k. Allows the use of CP/M Plus. 289.00

CPC - continued

256k Silicon Disc System (464/664)

Provides 256k of RAM disc accessible many times faster than the conventional drive and with a greater disc capacity. It can be logged on as drive B or in a two drive system as drive C. Data can be transferred onto the silicon disc from a normal disc or from RAM, application programs can then work on the data at vastly increased speed. Will accept all normal Amstrad disc commands such as LOAD, SAVE, CAT etc. 329.00

256k Memory Expansion (6128) 289.00

256k Silicon Disc System (6128) 329.00

UTILITIES

Disc Demon - comprehensive menu driven disc utilities 69.95 -

Fido - unique disc catalogue and menu maker program 29.95

Model Universe - 3D rotating drawing program 54.95 -

Rampak - nearly fifty machine code subroutines 44.95 37.95

Rembrandt - multi mode icon driven drawing prog. 69.95 -

Supersprites - sprite designing and control program 29.95 19.95

System X - adds over 40 new Basic extension commands 29.95 19.95

Toolkit - the most advanced Basic extension for the CPC 69.95 49.95

JOYSTICKS

CHALLENGER CPC - futuristically shaped joystick in high-impact light grey plastic. Ultra-sensitive top and bottomfire buttons. Features a very smooth stem movement and fast micro-switches 29.95

STAR CURSOR - a very robust joystick designed and manufactured by a leading arcade joystick supplier. Fully microswitched, fire buttons on base and handle. Adjustable 4- or 8-way action. 49.95

WINNER 220 - a really robust joystick with built-in precision control. Fully micro-switched with two fire buttons on the base and two on the stem for fast and furious action 34.95

ZIPSTICK SUPERPRO - 90% British made quality moulded high impact plastic with self-centring actuator & eight-way micro switches. 1.4m of cable. Left and right hand fire buttons, steel shaft, non-slip rubber pads 39.95

ZIPSTICK ELITE - a smaller, specially designed hand-held model with similar specifications to the Superpro, but with just one forward centrally located fire button. Also has rubber pads on base for flat surface use 29.95

MISCELLANEOUS

Screen Filter 29.95

Ribbons

Black Nylon for DMP 2000/3000/3160 19.95

Black Nylon for DMP4000 19.95

3" drive cleaning kit 19.95

CF-2 3" discs each 7.00

Joystick Splitter Cable - to allow the use of two joysticks through the single joystick port of the CPCs (not simultaneously) 19.50

CPC6128 'Seal 'n' Type' Keyboard protector Stops damaging spills etc. 29.95

PCW

**Amstrad PCW Range
8256, 8512 and 9512**
(unless otherwise stated)

GAMES

Academy (Tau Ceti II) §	65.95
Armageddon Man §	57.95
Batman §	57.95
Catch 23 §	57.95
<i>Classic Quest Adventures:</i>	
Goblin Towers (moderate)	49.95
Forestland (hard)	49.95
Witch Hunt (very hard)	49.95
Corruption	59.95
CP Compilation - with 3-D Clock Chess, Backgammon, 3-D Draughts and Bridge 2000 all on one disc	59.95
<i>Distractions: 3 graphics games compilation:</i>	
<i>On the Run, 2112 AD and Nexor</i> §	59.95
Double T Patience - compilation of six frustrating games including Kuala Lumpur, Poker Patience and Fourways	64.95
Giant Killer - maths adventure 10 to adult	54.95
Graham Gooch Cricket (Limited Overs & Test Match)	49.95
Guild of Thieves	69.95
Gnome Ranger	59.95
Head over Heels §	57.95
Heathrow ATC/Southern Belle	57.95
Ingrid's back	59.95
Jinxter	69.95
Knight Orc	59.95
Lancelot	59.95
Living Daylights	49.95
Match Day II - animated soccer action	57.95
Mindfighter §	65.95
Pawn, The	69.95
Return to Doom (Topologika adventure)	54.95
Scrabble de luxe	65.95
Steve Davis' Snooker	54.95
Time and Magik Level 9 trilogy: <i>Lords of Time, Red Moon and Price of Magik</i>	54.95
Tomahawk: helicopter simulation	57.95
World of Soccer - international Soccer management simulation	59.95

PUBLIC DOMAIN DISCS 17.50

(The games above marked with a § symbol are known to work only on the 8256/8512)

PCW YEAR DISC

Containing all the PCW type-ins published in The Amstrad User for issues shown	
Year Disc 1 - Issues 25 to 40	27.50

EDUCATIONAL

Better Maths (12-16 yrs)	39.95
Better Spelling (12-16 yrs)	39.95
Biology (12-16 yrs)	39.95
Chemistry (12-16 yrs)	39.95
Giant Killer - maths adventure 10 to adult	54.95
Magic Maths (4-8 yrs)	39.95
Maths Mania (8-12 yrs)	39.95

PUBLISHING

Desk Top Publisher	99.00
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PCW - continued

Newsdesk International	125.00
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STOP PRESS from AMS

The ultimate Desktop Publishing package for PCW owners. Combine text and graphics with 'what you see is what you get' facilities. The ideal publishing software solution for home enthusiasts, schools, societies and small businesses

Stop Press (disc only)	179.00
With AMX Mk III Mouse	299.00

DATABASES

Cardbox	129.00
Cardbox Plus	199.00
Condor One	149.00
Masterfile 8000	119.00
TAIT Database and Labeller	49.95

MISCELLANEOUS

Brainstorm - tool for structuring raw ideas in a logical manner	99.00
Daatafax Personal Organiser Gift Pack from Kempston - with software, stylish binder, subject tabs, and starter stationery	149.00
<i>(Additional stationery available on request)</i>	
Graphics, the Universe and everything... <i>This latest version (2.0) provides the means to create professional graphics output and more.</i> <i>Source code included (All PCWs)</i>	75.00
Lightning Basic Plus - turbo charge your Mallard Basic (all PCWs)	75.00

Master Paint - deluxe graphics program, for use with either mouse or keys	59.95
Mini Office Professional - the PCW version of the highly successful Mini Office II with Spreadsheet, Wordprocessor, database, graphics and communications	149.00
Money Manager Plus - cashbook/personal accounting	99.00
NewWord2 - only one available just	150.00
Personal Excellence Package - High quality mental performance analyser	109.00
Plan-it - desktop organiser, plan budgets, sort files etc.	39.95
Print Master Plus - create your own Banners, Letterheads, Signs, Calendars or Greeting Cards with graphics or borders supplied. <i>(Runs under CP/M Plus only)</i>	59.95

Protex Filer - pop-up database module for Protex	69.95
Protex Office - as Protex Filer but with mail-merge and invoice generator module	99.95
Protex PCW	179.99
Prospell PCW - spellchecker for most word processors incl. Wd/Star and LocoScript	89.95
Scratchpad Plus spreadsheet	99.00
Stockmarket - watch your investments	79.95
Tait Accounting System - small business Debtors, Creditors and Invoicing	129.00
Tempdisc - a disc full of instant templates exploiting LocoScript to the full. Provides a wide range of heading styles, agendas, invoices, borders and documents:	
Tempdisc 1 (needs Loco1)	59.95
Tempdisc 2 (needs Loco2)	59.95
Tempdisc 8.2 (needs Loco2, Locomail and 8512)	67.95

PCW - continued

Tempdisc 9 (for 9512)	67.95
T/Maker - Relational database, Spreadsheet, Word Processor, Spell Checker, Graphics, List processor - for 8512s and 9512s	149.00
Touch 'n' Go - typing tutor	69.00

PERIPHERALS

8256/512 'Seal 'n' Type' Keyboard protector Stops damaging spills etc.	29.95
9512 'Seal 'n' Type' Keyboard protector Stops damaging spills etc.	29.95
AMX MOUSE plus interface from AMS - the most popular and sought after peripherals for your PCW, especially with StopPress	165.00
MM3 Margin Maker - Single sheet locator and aligner for PCW 8000 printers	39.95
PCW Joystick Interface from Kempston	59.95
SCANNER - Master Pack - a scanning device which attaches to a PCW printer head to copy photos or other art work, Master Scan software and Master Paint, a powerful graphics package. Compatible with Desktop Publisher, FSE and Newsdesk International	279.00
SCREEN FILTER	29.95

TASMAN RANGE

Tasword 8000	65.00
Tas-spell 8000	45.00
Tasprint 8000	39.00
Tas-sign 8000	69.00

CONSUMABLES

PCW 8000s Printer Ribbons	
Black Carbon or Nylon	19.95
Coloured Nylon - Blue, Red or Green	24.95
PCW 9000s Printer Ribbons	
Black Carbon or Multistrike	15.95
Black Nylon	19.95
Daisy Wheels for 9000s	
Prestige Pica 10; Prestige Elite 12; Courier 10;	
Cubic Pica 10; Mini Gothic 15/Micro; Orator 90%/10;	
Letter Gothic 10/12; Script 12 each	19.95
3" disc drive cleaning kit	19.95
CF2 3" discs each	7.00

LOCOMOTIVE PRODUCTS

LocoScript 2 (v. 2.16 - N/E)	87.00
LocoScript 2 + LocoSpell	130.00
LocoMail2	105.00
LocoSpell2	75.00
Locomail1 to 2 upgrade	18.50
LocoSpell1 to 2 upgrade	18.50
LocoScript2 upgrade to v2.16 (N/E)	18.50
<i>(Original LocoScript2 disc must be returned certified mail for upgrades. Please note that upgrades are not available/necessary for 9512 owners. Upgrades from LocoScript1 to LocoScript2 are not available.)</i>	

The following are for PCW 8000s using LocoScript 2.12 and above (Please state 8000s):

24 Pin Printer Driver - suitable for most 24 pin print head printers attached to the 8000s	64.95
Printer Character Set Disc for defining new character sets	59.95
Extra Printer Drivers Disc containing a PrinterFile for every LocoScript2 compatible printer	59.95

PCW - continued

Keyboards Disc to configure LocoScript2 to use American, Canadian, Danish, English, French, German, Italian, Norwegian, Spanish or Swedish keyboard layouts with any nationality of LocoScript2.	59.95
Locofile/8000 - the resident 'pop-up' database for LocoScript2	110.00
LocoFont SET 1 adds nine extra fonts to your matrix printer	75.00
LocoFont SET 2 adds a further set of five fonts to your matrix printer	65.00
LocoKey to customise your keyboard	59.95
Locomail Sorting Program	39.95
Locomail2 Examples disc	17.50
LocoMail2 New User Guide	54.95

The following are for PCW 9512s

(Please state 9512 when ordering):

24 Pin Printer Driver - suitable for most 24 pin print head printers attached to the 9512	64.95
Printwheels Disc allows the correct printing of the characters from any printwheel supplied for the built-in printer.	59.95
Locofile/9000 - the resident 'pop-up' database for LocoScript2 on the 9512	110.00
Keyboards Disc to configure LocoScript2 to use American, Canadian, Danish, English, French, German, Italian, Norwegian, Spanish or Swedish keyboard layouts with any nationality of LocoScript2.	59.95
Printer Driver and Character Sets supports a wide range of printers and printwheels used as an alternative to the built-in printer	59.95
Locomail Sorting Program	39.95
Locomail2 Examples disc	17.50

Amstrad PC Range PC1512/1640, PPC512/640 and PC2000 series (unless otherwise stated)

Items marked with a "+" symbol are also available in 3.5" disc format.

GAMES

221b Baker Street	49.95
4 x 4 - Off-Road Racing †	49.95
4th and Inches (Grid Iron)	44.95
4th and Inches Construction Set	35.95
Aces High Compilation with World Series Baseball, Wizball, Top Gun and Arkanoid	69.95
Action Service	54.95
Airborne Ranger †	59.95
Alternate Reality (The City)	49.95
After Burner	69.95
Alter Ego (female version)	47.95
Amazon	59.95
Annals of Rome	64.95
Apollo 18	64.95
B-24	69.95
Battle Chess (needs 640k)	69.95
Battle for Normandy	69.95
Battle Hawks 1942	64.95

PC - continued

Battle Tech	61.95
Batman	69.95
Beyond Zork	59.95
Bionic Commandos	54.95
Black Cauldron †	59.95
Black Jack Academy †	49.95
Bobo	69.95
California Games †	49.95
Captain Blood (3.5" only)	69.95
Charlie Chaplin	69.95
Circus Games	59.95
Classic Quest Adventure Series:	
Goblin Towers	39.95
Forestland	39.95
Witch Hunt	39.95
Catacombs	39.95
Cornucopia	39.95
Classic Arcades 1	59.95
Classic Arcades 2	59.95
Colossus Mahjong	69.95
Combat School	69.95
Concentration	49.95
Corruption	59.95
Crazy Cars	59.00
Crosscheck	49.95
Crusade in Europe	59.95
Daley Thompson's Olympic Challenge	69.95
Dark Castle	49.95
Dark Side	54.95
Decision in Desert	59.95
Def Con 5 (American 'Star Wars' defence)	59.95
Demon Stalkers	54.95
Destroyer †	49.95
Dragonworld	32.95
Dream Warrior	69.95
Driller	59.95
Echelon	54.95
Elite	69.00
Empire	47.95
F-15	59.95
F-16 Falcon †	62.95
F-19 Stealth Fighter	109.95
Fahrenheit 451	32.95
Family Feud	49.95
Fire and Forget †	69.95
Fire Power	47.95
First Expedition †	49.95
Fish	69.95
Flippit	39.95
Galactic Conqueror	69.95
Games, The - Summer Edition †	49.95
Gettysburg	69.95
Gnome Ranger	59.95
Gold Rush	52.95
Grand Prix Circuit	59.95
Great Escape, The	59.95
Gunship †	69.95
Hardball	49.95
Hitch Hiker's Guide to the Galaxy	64.95
Hunt for Red October	49.95
Impossible Mission II †	49.95
Ingrid's back	59.95
Inside Trader	59.95
Impact (mouse or keyboard only)	32.95
Jack Nicklaus Golf	59.95
Jackal	69.95
Jeopardy	49.95
Jet	89.95
Jewels of Darkness	59.95
Joan of Arc	52.95
Kampfgruppe	69.95

PC - continued

Kings Quest 1 †	49.95
Kings Quest 2 †	49.95
Kings Quest 3 †	49.95
Kings Quest 4 (9x5.25" and 4x3.5")	84.95
Knight Orc	59.95
Lancelot	59.95
Leisure Suit Larry (AO) †	59.95
Leisure Suit Larry II (AO)	59.95
Man Hunter - New York	64.95
Mean 18	69.95
Mean 18 Famous Courses 1	24.95
Mean 18 Famous Courses 2	24.95
Mean 18 Famous Courses 3/4	29.95
Mech Brigade	69.95
Might and Magic	79.95
Mini Putt	49.95
Mystery Trilogy (3 mystery games)	47.95
Night Raider	59.95
Nine Princes in Amber	32.95
Nord & Bert couldn't make head nor tail...	47.95
Pawn, The	69.95
Peter Rose Pennant Fever	47.95
PC Gold Hits Compilation (for CGA) with Infiltrator, Bruce Lee, Ace of Aces and World Class Leaderboard	49.95
Perry Mason - Mandarin Murders	32.95
Phantasie 1	69.95
Phantasie 3	69.95
PHM Pegasus †	59.95
Pinball Wizard	69.95
Pirates	59.95
Platoon	69.95
Plundered Hearts	47.95
Police Quest †	59.95
Police Quest 2	59.95
Portal	47.95
President Elect	69.95
President is Missing	59.95
Project Space Station	49.95
PSI-15 Trading Company	49.95
PT-109	64.95
Quadraien	59.95
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PC - continued

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The most popular relational database for Amstrad PCs and compatibles	199.00
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MISCELLANEOUS

Joystick Games Card: Easily fitted - allows the use of an IBM style joystick on your Amstrad PC 1512 or 1640 42.50

Anko Precision Joystick: top of the range - with free floating or auto centring operation modes, dual axis trim controls for accurate control of cursor/aiming/movement, two fire buttons on base and one on stem and rubber feet for surface grip 49.95

Anko Standard Joystick: mid-range joystick with fire button on base and one on the stem, dual axis trim controls for accurate movement, rubber feet for surface grip 39.95

Junbo Joystick: the smallest in the range but just as accurate, with auto return centring and fine tuning to adjust movement control, long life variable resistor control, two fire buttons, suitable for hand held control 29.95

CHALLENGER PC - futuristically shaped joystick in high-impact light grey plastic. Ultra-sensitive top and bottom fire buttons. Features a very smooth stem movement and fast action micro-switches 29.95

PC1512/1640 'Seal 'n' Type Keyboard Protector

Stops damaging spills and dust 29.95

MOUSE DRIVER for Microsoft windows (allows the use of Amstrad with MicroSoft products) 59.95

MODEM - Amstrad's MC2400 (V21, V22, V22 bis and V23 2400 bps). Works with any IBM compatible and comes with communications software. 399.00

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20mb Hard disc drive for PPC	1199.00
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20mb Hard Disc Kit for PC1640	875.00
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BOOKS

BOOKS for all Amstrads

Please note that there is a P&P charge of \$5.00 on all orders containing books over a value of \$20.00. This should be added to your remittance.

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Advanced User Guide	21.95
Amstrad Compendium	23.95
Basic BASIC	18.95
Childs' Guide to the Amstrad Micro Disc System, The Amstrad CPC 464	13.95
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Whole Memory Guide - 464	30.95

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LOGO Pocketbook	17.95
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Using Databases on the PCW	35.95
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CP/M TITLES

CP/M Plus Handbook - Operator's and Programmer's guide for the Amstrad CPC6128 and PCW 8256 and PCW 8512 (Soft 971) by Digital Research Inc. Over 500 pages of everything you need to know about CP/M Plus. Includes a GSX supplement	52.95
Introduction to CP/M Plus (CPC/PCW)	32.95
Choosing & Using CP/M Business Software (for PCWs)	35.95

PC TITLES

Amstrad PPC Companion	36.95
Adv. Basic2 Programs on the Amstrad PC	35.95
Basic2 User Guide by Locomotive Software	39.95
Business Computing with the PC1640	44.00

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Graphics on the PC1512	55.00
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DOS Plus Reference Guide for PC-DOS, MS-DOS and CP/M Programmers from Digital Research	75.00
Introducing Lotus 1-2-3	14.95
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MISCELLANEOUS

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MINI SUPER CLEANER - a small hand-held vacuum and/or blower to clean out difficult to reach areas such as a keyboard. Small brush and pipette attachments supplied. Requires 2 x 1.5 volt batteries - not supplied 27.95

GIFT VOUCHERS - ring 03 233 9661 for details

CPC & PCW PUBLIC DOMAIN SOFTWARE

The following discs contain compilations of public domain programs put together by the Advantage Computer User Group (in England) and which have been tested under CP/M Plus.

Unless otherwise stated, programs will run on the PCW, 6128 and 464/664 with extra memory and CP/M Plus. Programs for the 464/664 are on the CP/M 2.2 Collection. The discs are supplied in

Data format and contain documentation files to help the user get started and provide instructions on running the programs plus useful sorted directory and MENU systems.

But remember, as Public Domain programs they are supplied on an as-is basis.

CP/M 2.2 COLLECTION

For 464/664 disc drive users with CP/M 2.2. Contains File Manager, Compare, Find, Disc sector editor, Key definer, Bad sector eliminator, Grep, Full Screen text editor, Easy lister, File transfer utility, Unerase erased files, erased files catalogue and many more.

CPC Ref: #430

FULL SCREEN TEXT EDITOR

This machine code editor offers full screen editing, full block operations, windowing, automatic horizontal scroll (line length up to 255 characters), macro functions, word-wrap and formatting, pagination, find/replace, undelete and many user options.

The editor, which is less than 10k in size, is fast because it edits a file entirely in memory. It produces ASCII text files and has enough features to be used as a word processor. A comprehensive on-disc manual is included together with keyboard configuration files for the CPC and PCW.

CPC Ref: #601 PCW Ref: #801

DATABASE

A small relational database suitable for storing simple data and producing reports and forms letters from the data. Offers free format query language with macros and commands plus on-line help. The disc also contains an Inventory Database. Whilst these databases provide a useful introduction and you can use them to set up a full operational database system they are not meant to replace commercial packages for professional or business use.

CPC Ref: #602 PCW Ref: #802

COMMUNICATIONS

Programs to allow data transfer between computers (local and remote), access databases and bulletin boards. UKModem7, New Kermit, MEX and various communications utilities. The disc also contains software for Prestel (Viatel) emulation (PCW only).

CPC Ref: #603 PCW Ref: #803

VIDEO CLERK

Keep track of your video collection. With four Sort options and Forms Management system for printing out the data in order of title number, video number, global alphabetic or unique. Includes extensive on-disc documentation.

CPC Ref: #604 PCW Ref: #804

FIXED ASSETS LOG

Allows you to keep a record of all your assets and their value. For example, at home, you may wish to

keep a record of how much money you are spending on your computer or the value of a stamp collection etc. In business you can use it to keep a record of how much money you have tied up in land, buildings, office equipment, cars etc. It can also be used as a stock-taking program.

CPC Ref: #605 PCW Ref: #805

COMPLETE UTILITIES

• *Newsweep* - one key erase, copy, rename and print, plus many other features. Ideal for sorting out your disc collection quickly and efficiently • *Superzap* - disc sector editor - edit by track/sector or filename. Fully menu-driven with cursor key SETKEYS file • *DisckitA* - multi-choice disc formatter, offers 178k data format for PCW discs and 5.25" second drive formatting • *Unerase* erased files • *Read/write* PCW discs on a CPC • *CP/Mv2.2 emulator* • *Make* - allows you to copy files across user areas • *Cleanup* - useful for speedy file deletion • *Lookat* - speedily lists any file in Hex and ASCII • *Screen Dump* (CPC only) • *Password* • *Easy Lister* • *Password Protection* • *File Scrambler* • *File Splitter* • *Directory check*

CPC Ref: #606 PCW Ref: #806

TEXT PROCESSING UTILITIES

• *Sideways* - prints text file sideways on an Epson-compatible printer. Ideal for those wide spreadsheets • *Sort* any ASCII list into alphabetical order • *Word count* - can be used on any ASCII file • *WSClean* - removes higher order bits from a text file and converts it to straight ASCII • *Calendar Generator* - prints out calendar for any year • *Simple Spell Checker* - with starter dictionary and dictionary editor • *Scoring card generator* • *Banner printers* • *Typewriter emulator*

CPC Ref: #607 PCW Ref: #807

DISC ORGANISATION

Catalogue your disc collection and produce a printed index. Useful for speedy location of files and for keeping your discs in order. Library utilities for archiving and saving disc space. File dating system. Squeeze and unsqueeze for saving up to 40% disc space. Menu system - allows menu-driven access to programs on a disc. Completely and easily user-definable.

CPC Ref: #608 PCW Ref: #808

Z80 PROGRAMMER

A complete Z80 Assembler which is capable of converting an ASCII assembler file into a fully executable machine code .COM program. Plus Z80 Disassembler, Z80 Debugger, Z80 Library, 8080 Disassembler, Z80 to 8080 Translator and associated utilities.

CPC Ref: #609 PCW Ref: #809

'C' PROGRAMMER

The Small 'C' Compiler by Mike Bernson. Includes source code and 25k of documentation. Produces executable .COM programs.

CPC Ref: #610 PCW Ref: #810

'C' TOOLBOX

A disc full of 'C' source code examples together with the corresponding executable .COM programs. Useful to those wishing to see some practical examples of 'C'. As a bonus, the programs are quite useful too. The 'C' source was written for a variety of compilers and may need modifying to compile on MIX or Small 'C'.

CPC Ref: #611 PCW Ref: #811

FORTH, STOIC AND 'C' INTERPRETER

For experimenters interested in using these languages. Documentation is included on disc.

CPC Ref: #612 PCW Ref: #812

GAMES COMPENDIUM

A varied selection of the best machine code programs available for CP/M. Includes Pacman, Snake (PCW only), Chess, Othello, Mastermind, Spellit, Awari, Life, Golf, Polish Pong, Maze, Bio-rhythms, Word Search puzzle maker, TicTacTo.

CPC Ref: #613 PCW Ref: #813

ADVENTURES

• *Colossal Cave Adventure* which originated on main frame computers. With game save and re-load • *Bestiary* (written in Mallard Basic for either PCW or 6128 Mallard users. Standard CPC users see *Adventurer's Attic March 1989*) - you play the part of a young prince, your greatest love being to read the ancient bestiaries about strange and often legendary animals. Your task is to find a solution to the terrible blight which, one year, destroys both crops and animals in the kingdom. Includes game save and re-load • *Return from Arg* - a short but interesting new adventure written in 'C'.

CPC Ref: #614 PCW Ref: #814

PCW GRAPHICS (PCW only)

Simple user-designed graphics drawing program. Enables you to create, save, edit and print pictures on your PCW. Plot lines, points, boxes, four fill patterns, easy to use and wholly interactive • *PCW Screen Font designer* with several ready-to-run font sets • *Biomorph* - fascinating, graphic demonstration of natural selection - develop your own bugs! • *Readme* - program to display any ASCII text file in 45 character format on the 90 character screen - makes it easier to read.

PCW Ref: #815

HOW TO ORDER YOUR DISCS

You may either order over the phone by credit card or by post. *It is very important that you get the reference number correct. CPC and PCW discs are different.* (Software contained on 3" discs only).

The cost per disc is \$17.50. • **BANKCARD, MASTERCARD & VISA accepted** •

• Price includes postage in Australia, overseas add A\$2.00 •

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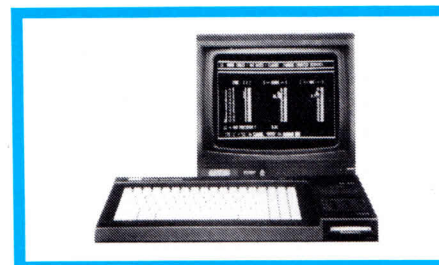
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MASTERFILE 8000

FOR ALL AMSTRAD PCW COMPUTERS

MASTERFILE 8000, the subject of so many enquiries, is now available through The Amstrad User from Campbell Systems in the UK.

MASTERFILE 8000 is a totally new database product. While drawing on the best features of the CPC versions, it has been designed specifically for the PCW range. The resulting combination of control and power is a delight to use.

Other products offer a choice between fast but limited capacity RAM files, and large capacity but cumbersome fixed-length, direct access disc files. MASTERFILE 8000 and the PCW RAM disc combine to offer high capacity with fast access to variable-length data. File capacity is limited only by the size of your RAM disc.

A MASTERFILE hallmark is the provision of multiple, user-designed display formats. This flexibility remains, but now it's even easier. With MASTERFILE 8000 you design your formats "live"; no more questionnaires, just move your format effects around the screen using the cursor keys!

Record updating is even easier than before - just steer your cursor to any field on the screen and then insert/erase/alter as required.

Special options are provided for handling dates and surnames, and column totals can be generated.

All screen work is done graphically - and hence we offer unique panel, box, and ruled line options. Choose the line spacing at pixel resolution - you will be amazed how much clearer 9-pixel lines are than the usual 8-pixels. (Study the picture.) And all this faster than CP/M normally lets you paint the screen! PCW printer functions, under menu control, are provided.

Any file can make RELATIONAL references to up to EIGHT read-only keyed files, the linkage being effected purely by the use of matching file and data names.

You can import/merge ASCII files (e.g. from MASTERFILE III), or export any data (e.g. to a word processor), and merge files. For keyed files this is a true merge, not just an append operation. By virtue of export and re-import you can make a copy of a file in another key sequence. New data fields can be added at any time.

File searches combine flexibility with speed. (MASTERFILE 8000 usually waits for you, not the other way around.) You can even assign subsets of a file into one or more of seven pigeon-holes for subsequent reference or further manipulation.

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C5007	Epson	FX105	100cps 40x14 132col	£225
C5008	Canon	RS5	100cps 40x14 00col	£370
C5009	Canon	RS5	100cps 40x14 00col Colour	£440
C5010	Juki	5520	15cps daisywheel	£630
C5011	Juki	6100	30cps daisywheel	£200
C5012	Juki	6200	25cps daisywheel	£1,795
C5013	Juki	6300	220cps 50x14 132col	£2,700
C5014	Juki	DX	8 page min M	£2,900
C5015	Fujitsu	DX	8 page min M graphics	£285
C5016	Fujitsu	LBP5A1	8 page min M	
C5017	Canon	LBP5A2	8 page min M graphics	
C5018	Canon	Laser	8 page min M graphics	
C5019	HP	Laser	100cps 50x14 00col	
C5020	HP	HP-810		
C5021	Taxan			

Customer Details and Invoices				
British United Freight 493 Western Avenue Gloucester GL9 5JN		Tel: 0452 6 Contact: Mike N	Ref: BUF	
Invoice	Tax point	Amount	Date paid	Co
12004	20 Aug 87	£235.00	02 Oct 87	
12339	29 Aug 87	£98.00	02 Oct 87	
12450	01 Oct 87	£305.00		re
12453	21 Oct 87	£133.00		
12533	03 Nov 87	£1,004.50		
12538	10 Nov 87	£355.65		
12703	11 Nov 87	£200.00		
12782	11 Nov 87	£39.20		
12839	04 Dec 87	£883.55	04 Dec 87	Cash with order
Totals:		£3,253.90		
Date of invoice				

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