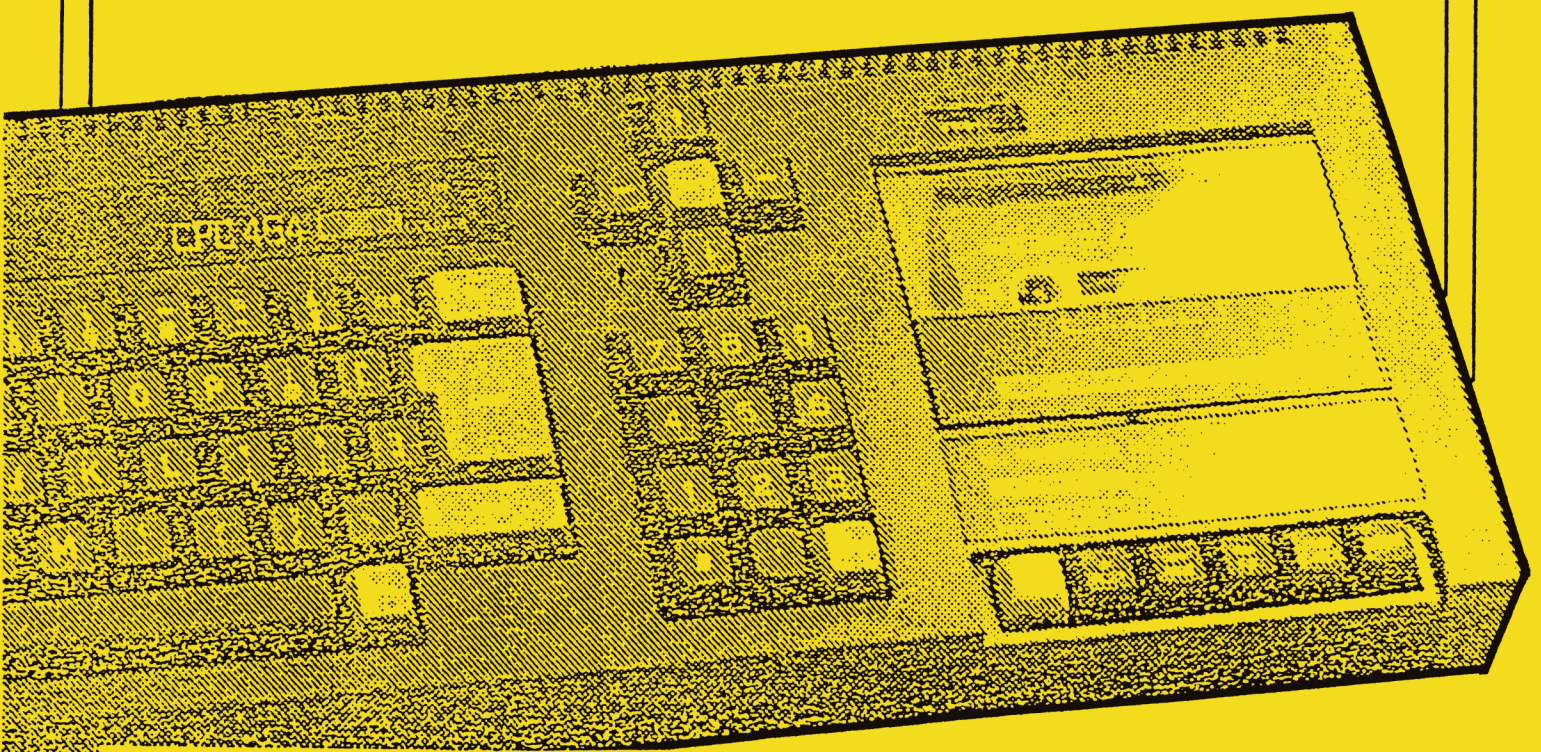


A happy Christmas
and a Peaceful and prosperous
NEW YEAR to all our members

CPC

USER

THE BI-MONTHLY MAGAZINE
OF THE
UNITED AMSTRAD USER GROUP



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AMSTRAD

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CHAIRMAN'S BIT

Dear Members

Over the last few months your Committee has been considering ways of maintaining and possibly increasing our membership figures. We have placed free advertisements in Micro Mart and Computer Shopper magazines and have agreed to place a paid advertisement in Amstrad Action.

When I first joined UAUG I wrongly thought that my subscription would be enough to pay for the next six issues of CPC User, but since becoming Chairman I soon learned that life was not that simple! All the national magazines rely on advertising income to keep going but with our small circulation figures we cannot enjoy that level of income. We charge only £10 per page per issue. Compare that with the £500 per page which one magazine recently asked us to pay. As you can imagine I quickly declined the offer! All this means that we rely mainly on renewals and new members to maintain the standard of service we offer. At any one time we probably have enough for about one issue of the magazine. It would certainly help our forward planning if we had a larger bank balance.

There are two ways in which you can all help to maintain or hopefully increase our membership. Firstly, renew your own membership each year. Secondly, try to enrol at least one new member each year. In addition we would welcome any ideas for advertising our Group at low cost.

I hope I have not given the impression that we are in financial trouble. The problems I have outlined have always been with us and I thought it right to make you all aware of the situation.

Finally, with the Festive Season fast approaching may I suggest that a UAUG subscription would make a very acceptable present for a relative or friend.

I trust you all enjoy a very Happy Christmas. Best wishes,
Tony Baker

~~CONTACT~~ = ~~CONTACT~~

OFFERS OF HELP

General help and advice for choosing and using Word Processors: DON SNOAD, 85 Woolston Road, Butlocks Heath, Southampton, Hants, SO3 5FN. SAE appreciated, or "quickies" by 'phone (0329-283666) during office hours.

Help with Basic and G.A.C. adventure creator. Contact: JOHN PACKHAM, 60 Hightown Towers, Warburton Road, Southampton, Hants. SO2 6HH.

Help with problems on a varied subject list except hardware and assembly language (full details on request): contact COLIN EVANS, Windsor Crescent, Monk Bretton, Sth. Yorkshire, S71 2LU.

NEIL BUKHARAYEV of Russia offers help with Maths and Pascal programming: address from Tony Baker, Chairman.

I'm gormless when it comes to programming and the like, but I can make Brunword dance the polka and would be pleased to help anyone with queries on it. I'm also quite clued up on printers, 9 pin and 24 pin, - the various models and their virtues and vices. If anyone's shopping for one I may be able to help them. M CATTON. 11 Battery Close, Gosport, PO12 4PA. Tel: (0705) 585764

HELP WANTED

I would be pleased to hear from anyone with experience of the following printers: MT81, KX-P1124 & 1180, LX400, LQ400 & 550, SWIFT 24 and P2200 - MIKE CATTON, address as above.

WIN WIN

A 24 GAME CASSETTE PACKAGE

GAMES CRAZY

KINDLY DONATED BY GREMLIN SOFTWARE

ALL YOU HAVE TO DO IS WRITE A REVIEW OF YOUR FAVOURITE GAME

Entries will be judged on their merit by John Packham (Games Software Editor) whose decision is final. Entries are accepted on the condition that they may be published at a later date. (Maximum size of review to fill one magazine page)

Send your entries to:
COMPETITION 18
60 HIGHTOWN TOWERS
WARBURTON ROAD
SOUTHAMPTON
SO2 6HH

See page 5
for THE WINNER
of competition
in issue 17
(and the
solution)

Closing date for all entries is 5 January 1990

GAMES CRAZY COMPILATION
CONTAINS THE FOLLOWING TITLES:

1. ALTERNATIVE WORLD GAMES

1. Sack Race
2. Pile of Plates
3. Boot Throwing
4. River Jump
5. Pole Climb
6. Run up the Wall
7. Pillow Fight
8. Pogo

2. SUPER SPORTS

1. Crack Shot
2. Dare Devil Dive
3. Slate Smash
4. Cross Bow
5. Underwater Assault Course

3. GALACTIC GAMES

1. 100 metre Slither
2. Space Hockey
3. Psycho Judo
4. Head Throwing
5. Metamorph Marathon

4. CALIFORNIA GAMES

1. Half Pike Skateboarding
2. Footbag
3. Surfing
4. Roller Skating
5. BMX Bike Riding
6. Flying Disc

DISCBASE

DISCBASE is a highly specialised database, for just one task - keeping track of your disc collection and the files on them. To build up your database you simply insert each of your discs in turn and the programme automatically reads them. Subsequently you can search to find any file from a maximum of just over 1000 in under 1 second.

- * Automatic data entry
- * Fast searches
- * Automatic disc update
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- * Hard copy of files, discs or CATs
- * Searches can use full wild cards and logical AND/OR
- * Disc utilities, eg ERASE, RENAME
- * USER numbers supported throughout program
- * Scroll up and down with cursor control
- * Move instantly to the top or bottom of lists
- * Many m/c routines for raw speed
- * Full user manual

DISCBASE was given a "rave" review in Amstrad Action (April 89) which said:
"It's not only the usefulness of this product that has bowled me over. Its simplicity and speed are brilliant. 99% of disk users will find DISCBASE indispensable"

Available direct from the authors - by sending a cheque/PO for £11.95 to:
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For enquiries telephone 0246 235233 between 6 pm and 8 pm, Mon - Sat.

PROGRAMMING

LEARN ANOTHER LANGUAGE

PART ONE OF
A NEW SERIES
by
TONY BAMBRIDGE

FORTRAN

This series of articles is designed to introduce NEVADA FORTRAN programming to the absolute beginner, (like me!) using an Amstrad CPC Microcomputer and CP/M 2.2 operating system. I decided to use CP/M 2.2 to enable all disc drive users to benefit from this series. Later I will undertake a more advanced approach using CP/M+.

This first article will be taken up by presenting a step-by-step guide to setting up Nevada Fortran on the CPC. First however, a brief introduction to Fortran.

FORTRAN was one of the first high level languages to be developed, and was introduced in the nineteen fifties for the specific purpose of solving scientific problems most of which were and are mathematical in nature. It is also ideal for solving technological problems embracing all forms of engineering.

The word FORTRAN is an acronym for FORMula TRANslation. It is one of two languages which were designed for solving mathematical problems, the other being ALGOL meaning ALGORarithmic Language. The difference in the two languages is that ALGOL is a block structured language similar to PASCAL.

The implementation that I am using is Nevada Fortran from HISOFT; I mention HISOFT because they supply ED80 a full screen text editor free of charge with the package. I believe you will find ED80 one of the BEST text editors available for CP/M. (*That's my opinion and I am sticking to it!*). I don't agree with some of the adverse comments made about ED80. You will find that a good text editor is invaluable for programming languages under CP/M.

Nevada Fortran is a compiled language; you will no doubt know the difference between a compiled language and an interpreter.

Fortran is a relatively old language but there have been improvements over the years. These improvements are reflected by the release of further versions of FORTRAN. The two main and most common versions are FORTRAN 66 also known as FORTRAN IV and FORTRAN 77. There has been a new release though I don't know what title they have given it. Though I have come across the title FORTRAN 8x; if anyone knows what ansi have designated it PLEASE inform me at once as my life depends on it!. The main distinction between the two main versions is that FORTRAN 77 is about five times larger than FORTRAN 66. This is one of the reasons I bought Hisoft Nevada Fortran because it more or less conforms to FORTRAN 66 but as some of the more advanced features found in FORTRAN 77. It is also useful for writing and testing FORTRAN programs that you may wish to run on a mainframe.

The reason being that the implementation will allow portability if you program with care.

There are two classic methods of learning to program using FORTRAN (and other languages including BASIC). One being FLOWCHARTS and the other by writing out the problems in steps using English and sometimes termed PSUEDOCODE. It must be remembered that the professional programmer will probably use MODULAR or STRUCTURED programming methods. But whatever you use you will become involved at some point with flowcharts or psuedocode. Both these methods have their advantages and disadvantages and you will find it a matter of taste which you wish to adopt. With this particular series being for beginners, I will adopt either of the above methods when I feel it will clarify more clearly a particular program solution. The method used will be explained at the time of use rather than producing a lengthy discussion now. We will build our knowledge of FORTRAN by the way of explaining small example programs which in the main we will be able to use at a future date; thus by the end of our series we should have built up a substantial subroutine library. Each example will illustrate the structure and the use of FORTRAN statements. Adopting this method members who are experienced FORTRAN programmers can send in their routines which I will gladly include. Please note that I am not an expert but self-taught so any of you who wish to correct or criticise please do not hesitate to do so as that way we all learn more, including me!. However, I must plead guilty on my English; I have not attended Oxford or Cambridge and personally cannot stand studying English grammar, hence the lack of it. THAT'S GOSPEL!!

WHAT YOU NEED

1. PATIENCE: Yes, I am afraid you will need large doses of this because like all compiled languages the program is first written using a text editor. In this form the program is referred to as the source code and it will be then compiled using the Nevada Fortran compiler. So if there are ANY mistakes the compiler will let you know and you will have to re-enter the text editor

and correct them. Don't let this put you off!. A compiled language teaches you to be meticulous in what you do and how you do it. This kind of discipline will be reflected when you return to programming in BASIC and you should find that if you compare your Basic programs before and after using a compiled language there should be a difference in your presentation. Once the compiler as done its job then the program is referred to as object code. You now have two versions of your program, a source code version and an object code version. There are other versions but at the present this is all you need to know.

2. AN AMSTRAD CPC computer and it must have a disc drive. Therefore both the CPC computers have CP/M 2.2 [and let's not forget the CPC 664].

3. NEVADA FORTRAN PACKAGE (of course!!).

4. A TEXT EDITOR. If you do not have a full screen text editor you can use the single line text editor supplied with your CP/M.[or VDE in the PD library]. Well I think that just about covers the introduction to Fortran and the CPC.

SO LET'S SET UP NEVADA FORTRAN ON THE CPC

I assume that you are aware of how to prepare a CP/M system disc and that you can copy your Nevada Fortran Master disc. So let's configure Nevada Fortran.

NOTE: [enter] means press ENTER or RETURN.

Type: CONFIG [enter]- This is a .COM file on your Nevada Fortran disc and will be executed. The screen will display the following information:

DO YOU WANT TO CREATE THE ERROR FILE (Y/N)?

Type: Y (enter)- The screen will display:

WHICH DRIVE CONTAINS THE FILE "ERRORS" ?

Type: A [enter]- The screen response will be:

+++ CREATING FORT.ERR +++

The computer will then write a series of asterisks across the screen until the

file as been created on your disc. The screen will then display:

```
+++ CONFIGURING NAVADA FORTRAN
COMPILER +++
WHICH DRIVE CONTAINS THE FILE
"FORT.COM"? SPECIFY DRIVE "Z" TO SKIP
THIS STEP:
```

Type: A [enter]- The screen will display:

THE NUMBER IN [] IS THE CURRENT DEFAULT FOR EACH PARAMETER. TO USE THE DEFAULT JUST HIT THE RETURN/ENTER KEY. TO CHANGE ENTER THE NEW VALUE IN DECIMAL.

All you have to do is hit the ENTER key until the screen displays:

CAN YOUR CONSOLE OUTPUT DEVICE HANDLE LOWER CASE LETTERS?(Y/N)

Type: Y (enter)-The screen will then display:

```
WHICH DRIVE CONTAINS THE FILE
"FRUN.COM"? SPECIFY DRIVE "Z" TO SKIP
THIS STEP:
```

Type: A [enter]

Type: 2 [enter]

Type: Y [enter]

Type: N [enter]- The final screen response will be:

+++ ALL DONE +++

Well you are now ready to learn to program using Nevada Fortran. If you have the HISOFT version then try using ED80; all you need to do is the following:

Type: ED80 READ.ME (enter)

Well I think this is a good place to stop. Next time we will discuss the TEXT EDITOR and begin to program.

Finally a bit of philosophy [not from me]:

"We stand at the brink of a new age, made possible by the revolution that is embodied in the computer. Standing on the brink, we could totter either way - to a golden age of liberty or a dark age of tyranny, either of which would surpass anything the world has ever known." - G.M.Weinberg, The Psychology of Computer Programming.

Well I think it's philosophy!

COMPETITION : ISSUE 17

Several members remarked that this was difficult! In fact, there were more entries (12, but not all correct) than for any previous competition. The winner of TRIVIAL PURSUIT is GEORGE DYKE of Boscombe... congratulations to him and sorry to the other entrants. Try again!

THE SOLUTION	COMPUTING	FORTRAN	MATRIX	PROGRAM
ACCUMULATOR	CONCATENATION	GATE	MEMORY	RAM
ASSEMBLER	COUNT	HEXADECIMAL	MNEMONIC	REGISTER
BOOLEAN	DECIMAL	INPUT	MODEM	STACK
BOOT	DIGITAL	INTEGER	MAND	TRUE
BUFFER	DISC	LOGIC	OCTAL	UPDATE
COBOL	FIRMWARE	LOOP	ORIGIN	VARIABLE
	FLOPPY	MANTISSA	PASCAL	WILDCARD

HARDWARE

Fancy an inexpensive

SECOND DISC DRIVE

WHY NOT BUY
SECOND-HAND
says
PETER NASH

Second drives seem to be a popular "add on" at the present time and for any member interested in cutting cost and prepared to accept some minor disadvantages, the following solution may be of interest.

Here in the North West at some of the major 'boot sales' and the Amateur Radio, Electronic or Computing Exhibitions, dealers can be found offering ex-equipment 5.25" 40T disc drives (uncased) for about £10. Of course, there is some element of risk attached to buying a 'recycled' unit but if it appears to be in good condition, clean, no missing chips, belt drive in place, no damage to edge connector and no visible signs of overheating on the PC board, it is probably OK.

The units I have seen are the industry standard Shugart Model No.405R (about 7-8 years old) and the three which I had an opportunity to try were all serviceable. There is quite a range of DD's available and later Shugart models such as the SA200 or SA400 might be suitable. Full price equivalents to the current(?) range, SR400, are listed by RS Components (Electromail) who publish a data sheet No.7001 Nov. 86 which gives some useful information still applicable to the early versions. (Data sheets are FREE with any order!).

DISADVANTAGES

These are the disadvantages. It is not easy to obtain technical data for obsolete computer equipment and faults on the PC board could be very difficult to correct - particularly as two of the IC.'s are custom chips - so buyer beware! You can use only one side of a 5.25" disc which can be formatted system, data or vendor and you need to add a microswitch so that the CPC DOS can tell the drive is 'ready' when a disc had been inserted. If you feel very brave it is possible to remove the floppy disc from its protective cover and punch another index hole in the sleeve to match the existing one (little hole next to the drive spindle hole). Both sides of the floppy can then be used but care must be exercised as the magnetic disc is easily damaged by dust or fingering. You need a supply - 5v and 12v - and connecting cable (try for these where you buy the drive - many dealers have a collection of old computer cable harnesses complete with plugs and sockets - some also have the power packs to run the drive). Finally you have to connect the drive to the CPC and power supply and hope that it all works - not knowing whether the drive is a dud or not!

"You pays your money...
and you takes your chance!"
Shakespeare

ADVANTAGES

These are the advantages - if it works!. The total cost including drive at £10, new connecting cables, micro-switch and power supply is roughly £25-£30 depending on the price of the PSU. Floppies are a lot cheaper than Amsoft 3" discs and always available. It is very easy to transfer text files from a PC1512 to the CPC6128 - or the reverse - by formatting a disc CP/M 160k (gives 154k. usable on disc) using the DOS Plus utility 'DISK' supplied with the 1512. Even if the drive does prove to be a dud, you still have the PSU and cables ready for when you do acquire one which works.

MODIFICATIONS

The modifications which have to be made to the disc drive are quite simple - fit a microswitch which is operated when a disc is inserted or removed, wire the microswitch to the PC board (two soldered joints) and check the position of the link which sets up the unit as a 1st, 2nd, 3rd or 4th drive and the link which determines when the spindle motor starts. If a member buys one of these drives and would like more detailed information, ring me on 0257-421840. Finally, I would to thank our ex-Technical Editor, Stephen Brokenshire for information about the CPC DOS which proved a great help.

HELP!
HELP!
HELP!

I'm editor of my local school magazine, and I need some non-computer-related articles e.g. an album, film or video review. I have been trying to arrange interviews with celebrities for the magazine, so if any celebrities are reading this, or you have personal access to one, or if you can help in any way, please contact me. All mail will be answered. Please contact: Chi-Hun Wong, 10 Gerllan, Tywyn, Gwynedd, LL36 9DE. Tel: (0654) 711629

SUPERCHARGE YOUR MINI OFFICE II

If you use MOII
this is the package
for you

INTERCEPTOR

reviewed here by MALCOLM PIKE

There are those amongst us who regard Mini Office II as the greatest thing since sliced bread. Even the staunchest aficionado, however, has to admit that MO II does have its shortcomings.

In an attempt to alleviate some of these Camel Micros have produced their "Interceptor" disc. I have been trying it out.

It requires a 128K Amstrad in one form or another and comes virtually without instructions. There is a file called "Readme" on the disc which is supposed to fill this gap. If you run this program the initial screen will just sit looking at you for ever. In desperation you eventually press a key and then some information appears. After this you are told when to press a key. It's a pity this instruction was not displayed on the initial page.

The program is menu driven and is preset to give the 'Run "office" + enter' command on pressing function key O. This key is stuck with this command the whole time Interceptor is loaded, which can make some of your documents look rather strange if you are in the habit of using the numeric keypad.

To activate Interceptor the "up" and "down" cursor keys need to be pressed together. This produces the initial menu, which reads as follows:

- A. Save Image
- B. Disc Management
- C. WP file convert
- D. Screen Save/Print
- E. Calculator
- F. Notepad
- G. Return
- H. Finish

A. Save image. This facility stops MO II in its tracks and saves it to disc. Subsequently, by running "disc" you can pick up at the exact point at which you left off. Be warned that at least 95K of disc space are required.

B. Disc Management brings in a sub-menu and so I shall leave describing this until later.

C. WP file convert. This converts MO II ASCII files to MO II normal files for the word processor. Unfortunately it will not convert Protex files so I feel its uses are rather limited. In any case, the MO II word processor is one of the worst I have encountered.

D. Screen save/print. F or f saves the screen to a disc file. Unfortunately there are no instructions to get it back again so this seems a rather pointless

exercise. P - but not p (another programming error?) does act as a screen dump. I find this particularly useful with the SETPRINT parameters in Protex so that a record may be retained of the various settings. Sometimes an extra line feed is generated which is rather wasteful of paper.

E. Calculator. This is very difficult to get to grips with at first. Typing 4 + 7 = will get you nowhere. The correct format is: 4 enter 7 +. Ten memories are available. The shift key is not required to obtain * or /. The Letter 'S' is used when subtraction is to be performed.

F. Notepad. This is quite an innovative facility. 26 pages are available where you can keep comments. They are automatically stored on disc (suffix .NPD) on pressing the escape key. I can print them out without trouble on my Panasonic printer but my Kaga Taxan will only print part of the message. The rest is printed on repressing the control + p keys - together with the first part of the message again.

G. Return. This takes you back to MO II (assuming you were in it in the first place).

H. Resets the computer. A warning is given that this will happen.

B, Disc Management, has the following sub-menu:

- A. Copy disc
- B. Copy file
- C. Erase file
- D. Catalogue
- E. Rename
- F. Format disc
- G. Print file
- H. List file
- I. Previous menu

The first six of these facilities work very well - sometimes better than the "official" versions. Using A will copy Interceptor on to the back of your MO II disc - probably the best place to have it. I find these to be the most useful parts of the Interceptor disc. No

continued in page 25 ➡

JOHN PACKHAM
 reviews an ideal Christmas gift...

SPACE ACE

or why not buy it for yourself?

We have recently been bombarded with compilations and coin-op conversions. There seems to be very few original ideas out there in the games programming field. Let's hope that we see some over the Christmas period. I can't see all this carrying on for much longer, especially the computer versions of films. Nine times out of ten they don't appear like the film at all.

Why don't you let me have your thoughts on the subject, or for that matter, ANYTHING to do with games. Just send your work to me, and you'll have the pleasure of seeing your name in print (BIG DEAL!!). I'm sure there must be someone out there who has played at least one game.

Maybe you've written a game that you'd like other people to know about. Well, they WON'T know unless I know, so get cracking!

In the meantime, have a merry Christmas and an accident free new year.

SPACE ACE from GREMLIN/HEWSON
 £14.95 (tape) or £19.95 (disc)

I've recently received a compilation package from Gremlin. The price above is the original price, but I'd advise you to shop around. (Why not try one of the companies listed on the Discounts page, inside back cover? - Ed.). On this compilation you have 7 games and I shall now try to let you know whether it's worth getting. The games are.....

TRANTOR : NORTHSTAR : EXOLON : ZYNAPS
 CYBERNOID : VENOM STRIKES BACK : XEVIUS

The first one I tried was ZYNAPS. This is a horizontal scrolling, space shoot-em-up. The first thing you see after the usual title screen, is an extremely dazzling title and high score tables. I'd advise you to wear a pair of dark glasses for this display. Some excellent music also accompanies this screen.

The in-game graphics are great. They're large enough to see and are beautifully coloured. The only gripe I have is with the use of very small red dots to depict mines. Once into the thick of the action, they're extremely difficult to notice. The sound effects are good, but nothing outstanding.

Your ship has several weapons to choose from; Pulse Lasers, Plasma Bombs, Homing Missiles and Seeker Missiles. Unfortunately, the method used to select your weapon is somewhat cumbersome to say the least. As you destroy enemy ships, they leave behind fuel pods. As these pods are collected, your weapon select icon changes to the next weapon in the chain. If you want to use this particular weapon, then you must make certain that you keep the fire button pressed while collecting one more pod. As I said, cumbersome.

I think if it hadn't been for this awkward weapon selection, then Zynaps would have been a game that you just had to have. As it is, it just doesn't stand out from many others in a similar style. To sum it up, I'd say....

SOUND.....8 (mainly for music rather than effects)
PICS.....8 (colourful but nothing special)
PLAYABILITY.....8 (once you get the hang of changing weapons)
VALUE FOR MONEY.7 (would be lower if sold on its own)
OVERALL.....7

Next comes CYBERNOID. This is another shoot-em-up, in which you have to negotiate your way through 60 screens of never-ending action. Rather than just scrolling in one direction or another, the game is a huge maze, and once you've reached the exit on one screen (which can be at the left, right, top or bottom of the screen), the next screen flicks into play. You also do NOT have the option of returning to the previous screen. If a life is lost, then you resume play at the current screen.

The plot of the game is that Federation storage depots have been taken over by pirates, who have taken valuable jewels, ammo and weaponry. Your task is to destroy the pirate ships, recover the cargo and return it to the depot in the specified time limit.

The graphics are large and colourful, and the in-game effects are superb. The only trouble is that the graphics are so colourful, that during the thick of the action (of which there is plenty), some of the colours tend to clash with each other, making it awkward to distinguish you from everything else.

One of the many weapons you can choose is Bounce Bombs. When fired, four large red balls bounce all over the screen, destroying almost everything they touch. I found these can be very handy indeed. One of the trickiest problems is negotiating your way through a maze of shafts. These vertical shafts are patrolled by indestructible forces. It is possible to get through without any special help, but the easiest way is to use your Defence Shield (but these are limited so beware). Using these enables you to pass straight through the enemy.

There are many hostile obstacles to pass, and getting through all 60 screens is going to take you some time to accomplish. All in all, I think this is one of the better games on the compilation, and I'd say.....

SOUND.....8
 PICS.....9
 PLAYABILITY.....9 (you just have to have one more go)
 VALUE FOR MONEY..9 (even if sold on its own)
 OVERALL.....9

EXOLON is next. This one was written by the same author as Cybernoid, and it shows. The graphics are the usual high standard (BIG, bright and beautiful), and the sound effects are great, especially the explosions.

There are over 100 screens of non stop action, from which you just cannot take your eyes for one second. Weapons at your disposal include a hand blaster, grenades (useful for blasting those gun turrets and thick walls that block your progress) and pulse bombs, capable of rendering forcefields inoperative.

It's a very simple game to master, but plenty of action will keep you coming back for more. A Hyper-Alloy Exoskeleton is available for your use. This enables you to roam across mines and other obstacles (but NOT all) without fear of being destroyed. If you like a simple (but superbly designed) game, then this is for you.

SOUND.....8
 PICS.....9
 PLAYABILITY.....9 (but tends to get repetitive)
 VALUE FOR MONEY..9 (maybe 7 as a single game)
 OVERALL.....9

The bad game in the bunch has to be XEVIIOUS. I simply cannot understand how this ever got good reviews. I suppose it would suit those who can't seem to think quicker than a snail, but personally, I almost fell asleep playing it.

It's a vertical scrolling shoot-em-up, but the scrolling is boringly slow. The movement of your ship (no matter how quick YOU are) is also slow. The sound effects I think were designed to put you asleep (PING BEEP BEEP).

The current scores and the high score tables have been designed with a font and colour that make them almost illegible. The whole game may just get away with being sold at £1.99, but I just can't see what it's doing on this compilation. On the whole, I think it's a turkey and I won't bother giving you my marks for it. You can make up your own minds.

NORTHSTAR is very similar to Exolon. The graphics have the same high standard, although it isn't written by the same author. It's a horizontal (occasionally vertical) scrolling shoot-em-up, but after playing Exolon and Cybernoid, there wasn't much here that was original. It's generally a terrific game, and on its own, it would certainly be one that's worth having. However, I do feel that maybe it shouldn't have been on this compilation simply because of its close resemblance to Exolon and Cybernoid.

SOUND.....8
 PICS.....9
 PLAYABILITY.....7 (would have been higher if it wasn't so easy to get snuffed out)
 VALUE FOR MONEY..8 (on its own)
 OVERALL.....8

TRANTOR is a game which certainly outdoes all the rest. How anyone manages to produce sprites the size of the ones in Trantor I will never know. The game has to be seen to be believed.

Although the general idea of the game isn't much, it's the way that it's put across that appeals to me.

The game starts with Trantor (that's you) standing in a lift. You have 90 seconds to activate the security terminal, and once you've done so, you're given a letter. (there appears to be several sequences of these letters so you'd better jot them down on some paper). There are also lockers about. When in front of one, pull back on the joystick and you're presented with a useful item. It could be food, extra fuel (for your flame thrower), an energy shield or other useful things. Then press the fire button to use it.


Once you've located the letter (and extra items if need be) then find the lift, down to the next level and do it again. There are 8 terminals to locate, and once you've done so, unjumble the letters you have to form a computer related word, enter it into the security terminal, then you're given a beam code which you take to the beam area, enter the code and off you beam, succesful in your task.

Like I said, it isn't complex, but you try doing it in the time limit. The different sequences of letters and the fact that the bonus items appear in different places makes this game a challenge. I like it, and I shall be playing it again. The only gripe I have is with the loading of the tape version. If you leave it to load on its own, then it'll take forever, simply because it seems to have three (what I'd call) loading screens. All they are to me, is a showing off of the programmers skills, and in my view, are not really necessary. As soon as the second and third screen appears, I suggest you press the spacebar immediately, which causes the loading to continue and you don't have to wait for the fancy screens to show their all.

Apart from that, I'd gladly pay full price for this on its own (£9.99), but being on a compilation, it's even better value for money.

SOUND..... 8
 PICS.....10 (WOW!)
 PLAYABILITY..... 9 (just one more go!)
 VALUE FOR MONEY..10
 OVERALL.....10

Last, but by no means least, comes VENOM STRIKES BACK. This is the third game in the series of MASK adventures, and I'd describe it as an arcade adventure, although there is a lot of blasting involved.

Continued in page 26 

Y A H T Z E E

PART FOUR

■ A serialised type-in game for two players
by JOHN PACKHAM

I hope that those of you who are taking the time to type in this game are finding it easy enough to follow. If not, TOUGH!!

Actually, anyone who is having any problems should contact me enclosing an SAE, and I'll get back to them.

Well, if it's alright with you, we'll get on with this month's instalment..

```

11000 REM****SPIN CHOSEN DICE****
11010 FOR count%=1 TO 20
11020 number%=INT(RND*(6)+1)
11030 SOUND 7,50,1,15,,1,10
11040 LOCATE 28+(choice*2),21:WRITE number%
11050 FOR delay=1 TO 50:NEXT delay
11060 NEXT count%:dice%(choice)=number%
11070 RETURN
11080 REM
11090 REM
11100 REM
12000 REM****ADD UP TOTALS AND BONUS****
12010 scores%(co2,15)=scores%(co2,1)+scores%(co2,2)+scores%(co2,3)+
    scores%(co2,4)+scores%(co2,5)+scores%(co2,6)
12020 IF flag%(co2,15)=0 AND scores%(co2,15) >=63 THEN
    scores%(co2,14)=scores%(co2,14)+35:flag%(co2,15)=1
12030 scores%(co2,16)=scores%(co2,7)+scores%(co2,8)+scores%(co2,9)+
    scores%(co2,10)+scores%(co2,11)+scores%(co2,12)+scores%(co2,13)+
    scores%(co2,14)
12040 scores%(co2,17)=scores%(co2,15)+scores%(co2,16)
12050 LOCATE#co2+1,1,17:WRITE#co2+1,scores%(co2,15)
12060 LOCATE#co2+1,1,18:WRITE#co2+1,scores%(co2,16)
12070 LOCATE#co2+1,1,19:WRITE#co2+1,scores%(co2,17)
12080 LOCATE#co2+1,1,15:WRITE#co2+1,scores%(co2,14)
12090 RETURN
    
```

Well, that wasn't a lot to type in was it?
If you can stick with it, we'll now go on to the explanation.....

LINE 11010....This routine is as suggested by its heading, a routine to spin the chosen die (or DICE as some might say). This particular line simply sets up a loop to spin the die 20 times. It would have been quite easy to have it spin a random number of times, but I'll leave that for you to figure out.

LINE 11020....As you might have guessed, this picks a random number between 1 and 6.

LINE 11030....This line simply generates the quite pathetic sound effects in the game. As I've said before, sound isn't my strong point, so you're more than welcome to change it. The first number means play the sound on all three channels. The channels are 1, 2 and 4, so all channels is 1+2+4=7. The second number is the pitch (or note). If you look through your manuals, you'll see that 50 plays the note D# three octaves above Middle C. The third number is the duration in hundredths of a second so this is 0.01 seconds. The fourth number is the volume, which can range from 0 (quiet) to 15 (loud). Notice that there are 2 commas following this figure. This is where a Volume Envelope number would have gone had one been defined, but there hasn't so there isn't. The next number is the Tone Envelope number. If you recall, we set one up in line 50. The last number is the amount of White noise to be added. This figure can range from 0 to 31.

LINE 11040....This line simply LOCATES the chosen dice in the correct place on the screen as it's spinning. WRITE is used instead of PRINT, simply because it doesn't display a leading space next to the number. Try changing it to PRINT and see what happens.

LINE 11050....This is a delay loop to prevent the dice from spinning too fast.

LINE 11060....Back through the whole loop again for a total of twenty times. Once finished, the number is put into the dice% array.

LINE 11070....RETURNS to the line AFTER the calling line, in this case line 180.

LINE 12010....scores%(co2,15) holds the UPPER TOTAL of 1's to 6's.

LINE 12020....If the above score is greater or equal to 63, and no bonus has been previously added, then scores%(co2,14) will equal 35 which is the bonus, and flag%(co2,15) will equal 1 to indicate that a bonus has now been added.

LINE 12030....scores%(co2,16) holds the LOWER TOTAL plus any bonus.

LINE 12040....scores%(co2,17) holds the TOTAL OVERALL.

LINES 12050 to 12080....These make sure that the totals are displayed in the correct place in the columns.

LINE 12090....RETURNS to line 270. The line following the line that calls this routine (260)

Well that lot should keep you going for a while. May I take this moment to wish you all a Merry Christmas and a Happy New Year. TAKE IT EASY ON THE BOOZE AND ON THE STUFFING!!!

PLENTY OF BLOOD IN THIS "GAME"!

BARBARIAN II

Reviewed by
JOHN PACKHAM

BARBARIAN II : PALACE SOFTWARE
£9.95 (TAPE) : £14.95 (DISC)

This has got to be the most blood-thirsty game ever. But, as Cupid Stunt (a creation of Kenny Everett's) would say, "It's all done in the best possible taste!".

The only bad point in this masterpiece is the sound. There's very little of it. What you get is the SWIISSHHH!! of the sword/axe being swung, an AAAAAAGHHHH! sound as you fall down one of the many pits, and, as a bit of humour in an otherwise violent game, a touch of laughter from a Caveman after he has beaten you to a pulp.

That aside, this game is a real treat for hack-em up fans, which I have just become. Never mind those people out there complaining about violence corrupting our youth (or elders), this is a game that you must have.

The scenario is this.....

You can take on the role of either the Barbarian or the Princess, the latter of which is ideal for all you females out there with bottled up anger, and your task is to battle your way through three action packed landscapes and past the many minions of Drax, an evil Wizard. Each landscape occupies a maze of about 28 screens. A sword at the bottom of the screen always points North, and by using that, you're supposed to be able to know where you're

going. Unfortunately, you rarely have the time to look.

Once through these landscapes, it's on to the Inner Sanctum of Drax where you have to face up to the Living Idol, and then finally, Drax himself.

The characters move extremely well, yielding their sword or axe, and it's great fun chopping up beasties and cavemen. After all, it's either them or you!

If you're clever and quick enough, you can manage to slice off their heads and see the blood squirt. But if you're looking the other way when a dragon is on the scene, then say goodbye to your head, drop to your knees and just look at that dragon gulp down your head in his throat. Very nice with chips!!!

The controls can either be Joystick or Keyboard, and I'd say that with about 30 minutes practice, you'll soon have the hang of it.

There are magical items to collect on each level, and it's advisable to collect them in order to complete your quest. You start the game with 5 lives, but more can be gained by picking up the odd skull or two.

All in all, I'd say BUY IT and start hacking em!

SOUND..... 4 (definitely not enough)
 PICS.....10 (LOVED EM!!)
 PLAYABILITY..... 8 (easy to control and plenty to hack!)
 VALUE FOR MONEY.. 9 (It's the sort of game my machine was waiting for!)

ANOTHER LOOK AT THE UAUG PD SOFTWARE

by RICHARD SERGEANT

More
PERSONAL
VIEWS . . .

The sub-title of this article could well be "Getting more out of CPM+ than I ever dreamed possible!!"

Some months ago, I wrote an article about my first faltering steps experimenting with Mallard BASIC. This CPM+ based BASIC can be purchased from Locomotive Software, or for those lucky PCW Owners it comes completely free with their machines.

The problems I have had when typing in, or modifying Mallard to run on the CPC, was that the EDIT function (line editor) balked at any line over 79 characters in length. This I solved by using a word processor to type-in the programs. PROTEXT in PROG mode is the easiest to use, although TASWORD will do at a pinch so long as the lines are not too long. With the basic file created and saved, you must leave the comfortable environment, and enter the dark world of CPM+. Firstly load SETKEYS KEYS.CCP, then type BASIC filename, and wait and see if the program will run (my CPM+ start of day disc, loads everything I require via a PROFILE.SUB file.)

It then became very fiddly sorting out the bugs, as I was forever leaving CPM and returning to PROTEXT (version 1.21). Eventually having removed all those nasty syntax errors etc., I usually found the presentation of the screen was awful, this is due to having copied the type-ins from either one of the two remaining PCW magazines.

To change the subject slightly, if any reader is interested in CPM+ programs, then Future Publishing's "8000 Plus" and Focus Magazines "Amstrad PCW" are worth a read. If you are into the more serious side of our hobby, these magazines have given me some invaluable advice.

Anyway, back to the present, the reason for the untidy presentation, is because the PCW's screen is 90 X 32 lines and our beloved CPC's use a more normal 80 X 25 layout. All screen positioning has to be altered, not too difficult after a bit of practice - I do like a tidy and well laid out screen, so for me it is worth the effort.

The answer to all of my problems (sic), was to treat myself to the full CPM+ version of PROTEXT (v. 2.23), having spent sometime setting it up, it works very well. With the addition of my Siren 3.5" disc drive running (RAMDOS+), it allows files of hundred s of K in length to be read and altered, which is quite impressive by any standard. All those really long PD document files can now be corrected and reformatted if necessary. My first task was the SCRIVNER documentation (113K long), and I was pleased with the final hardcopy. I bought PROTEXT heavily discounted from Dataline Computing Services Tel: (0945) 61736 for £39.95, the package includes a 30,000+ dictionary and mail merge, all in all, fantastic value.

This set up also now allows me to write my Mallard BASIC programs, run and edit them without leaving CPM+. Disc changes are no longer necessary, and save me considerable time. For those of you with QUALITAS Plus, a CPM+ loader is now available, this can be installed into CPM+ PROTEXT, there are no real problems and everything does work, unfortunately there is hardly any room left in memory which causes PROTEXT to be forever accessing temporary files, and scrolling through a relatively short text file takes ages. It is best to use PROTEXT without loading QUALITAS first, do whatever you require and when all is corrected (spell checked etc.) and formatted and ready for printing. Save your masterpiece and then QUIT. Reload with Qualitas (the QBIOSP loader), and then print out, PROTEXT will now happily keep up with your printer's output.

NOTE: Only one font can be used at a time.

You do not need PROTEXT to use the CPM+ version of QUALITAS, as a file called QTYPE is provided, this allows some limited adjustments to the formatting and printing out of those long PD text files, all in all a very useful utility, and only £9.95 from Seven Stars Publishing, (06284) 3445. The ever helpful Mr. Eckersley told me that if you send your own 3" disc he will only charge £6.99 for this program, which must be a bargain.

Before I forget, last year I spent some considerable time modifying a program called HOME.BAS which is to be found on PD 3/1, although this file did run I was never happy with its performance. I decided to try it out, running under Mallard, the first step was to save it in the ascii option ie. SAVE"HOME.BAS",A. This then easily

ported across to Mallard, and I soon discovered that this program had originally been written in Microsoft's MBASIC and converted to the CPC format. I made the necessary alterations, it now runs correctly in the environment in which it was created, faster and bug free.

So much for my rather long introduction, which leads me fairly neatly into my next experience or should I say experiment. I enjoy reading the magazine "8000 Plus", so I took out a yearly subscription. I also take the "Amstrad Action" which gives a reasonable balance. As a further aside, since Focus took over A.C.U. in my opinion it has become a really crummy magazine, my nine year old would make a better job at proof reading. I must stop digressing, like most magazines there was an offer, which included a disc full of Mallard BASIC and GSX type-ins plus on side 2, a couple of PD CPM+ programs. The first was an updated version of NSWP (v.2.07), the edition I received from our library was (v.2.05). The other program was a text editor called VDO25.COM. I easily transferred all these programs to the CPC format, a little COM file on PD 11/1 called "READPCW" will do the trick. The basic and GSX type-ins were tried and seemed to work, but on running the PD programs I found they had been configured for the PCW screen. SID came to my rescue, the correct code to alter NSWP back to normal was unearthed in the NSWP DOC file.

Altering VDO25 was not so simple, luckily I discovered that one of our PD programs called MIKEDIT on PD 4/1 was very, very similar. I then did a text dump of both programs using SID once again.....Comparing the print out, I eventually found the address at 0250, had to be altered from 1E to 18 (this is Hex for 30 and 24 respectively). I have enclosed both of these programs plus the newer NSWP and the various Help files, for inclusion in the library. Perhaps other members would like to experiment with SID, it really is quite easy when you get the hang of it. I can provide a simple tutorial if required.

VDO25 or MIKEDIT is a nice little text editor, it isn't a true word processor, as there is no word wrap or ability to format. To enhance print out CPM+ QUALITAS can be loaded first, and it still leaves about 48K free for text files, without QUALITAS there is 54K free.

The educational programs on PD 9/1 are very good, but unfortunately only work on a 6128, to get them to run on a 464, edit out all references to the command CLEAR INPUT. The modifications however must be done on a 6128, and only then will the files load/run on a 464. Malcolm Maddock supplied these games and obviously wrote them for his children. ANAGRAMS, HANGMAN, PAIRINGS and SPELLING are all suitable for 5-9 year olds. MATHSTST requires a printer, which produces 4 sheets of elementary arithmetic, plus, to help the parents get it right, a separate answer sheet. Two musical programs are included, these are called THEORY1 and THEORY2, as I am musically illiterate, I felt unable to review them, I must try them out on the children.

To once again change the subject slightly, before Easter I stumbled on an oldie Amstrad 464 tape (circa 1985) game called "EXECUTION". This turned out to be a modern day version of HANGMAN, except instead of drawing the gallows etc., you the player are the target for a robotic firing squad. They will zap you with their laser guns should you fail to correctly guess the word. The graphics are good in colourful mode 0, the easy levels are ideal for a younger child, giving a clue if needed. The higher levels are very tough, leaving me a disintegrated puddle many times.

Returning to PD 9/1, a text adventure called DICK.BIN is included, I wish I could give some hints on how to play it. The only way I can proceed with these games, is to slavishly follow the hint sheets. I used to enjoy the CWTA - Adventure articles as they had the solutions and I actually got to see the end of some of my games. Another little game called EDBUTT.BAS is well done, you have to hit the yellow objects and miss the green, moving top to bottom of a small screen. As usual getting past the first screen is for me, a major achievement.

Two disc catalogue printing programs are included, which seem to work easily. A screen dump program written by Alex Aird is excellent, very easy to use with the choice of dumping your artistic binary files, the screen files must be on the same disc as the dump programs SDUMP.BAS and SDUMP.BIN. When first loaded the disc side is catalogued, you are required to enter the name of the file to dump. You choose either mode 1 or 2, then view the screen to see if all is all right. Then dump to your EPSON compatible printer. I do not think the program takes advantage of the 8 bit printer port, as I could not detect any improvement.

I also took advantage of upgrading my copy of PD 4/1, which now includes a CPM program called PRINT.COM, this will take your ascii text file and send the output to the printer. On PD 11/1 is a CPM utility called MFT.COM (Multi file transfer), this is an easy to use mass file copier.

continued in page 25 

Educational Software

An assessment of some
of the available packages

by
ALAN LEE

My household is now using the 'beast' (6128) more and more for what it was actually intended (teaching aid for the children); to this end we are trying to acquire information on educational packages suitable for our children, for use now and in the future. Although I have read CWTA, ACU, AA and CPC User for some time now, I have not seen very much at all about dedicated educational packages. Most literature I have seen on the subjects has been restricted to advertising rather than constructive/objective criticism of a product. I would be very interested to hear of any other UAUG member's consumer comments on any of the educational application packages currently on the market dealing with subjects likely to be taught at school from the ages of 5-15. From packages we have had practical use out of so far, I have the following comments to make:

The Three Bears (School Software Ltd) (Disk price £15.95) was recommended to me as being suitable for my younger children as an educational adventure game. Upon loading you are warned not to attempt to copy the disk or it will corrupt/destroy itself; you are also asked whether you are using a 464 or 6128 and invited to affirm before it will load any further. The disk must be left in the disk drive whilst the game is being played. The plot is simple and easy to follow - wicked witch has stolen baby bear and you offer to get her back. The graphics comprise several well drawn cartoons.

Opinion: We haven't been disappointed by the game; our 5 year old can learn to read and spell - the words are similar to those he is currently being taught at school and he can make reasoned decisions for his next move. The locations are few and easily found on screen - you choose the next destination along a path as shown on the screen map. All our children found the game addictive - at least until they had saved baby bear. An expensive package but worth every penny of my children's pocket money for the next 2 months; only one who hasn't solved it yet is the five year old it was bought for.

Maths Mania (School Software Ltd) (disc price £12.95) was advertised as being suitable for 8-12 year olds. Upon loading you are offered 3 options; Main Programme/Look at Monitor/Look at Instructions. Press a number to select your preferred option. The instructions tell you how the game operates at different levels. If you select the monitor option you can see how any (or all) of your children coped with the questions - wrong answers are highlighted in yellow. The Main Programme allows the player to type in their name, they are then given 2 options: Multiplication or Division. Multiplication allows for 5 different levels, getting progressively harder. (Our 9 year old got up to Level 3, and our 11 year old got up to Level 4 using mental arithmetic, before having to resort to pen and paper to work the answer out at the next levels. Modesty

prevents me from telling you how thick I was). Division questions only allow for 2 levels, both of which were found to be easy. On screen graphics: the questions appear in 2 carriages of a train. Answers when typed appear in the engine. The player is allowed a second attempt if he/she gets the answer wrong. A correct answer makes the sound of the engine go faster, a second wrong answer makes the engine explode.

Opinion: Although my children found the multiplication at higher levels a challenge, the novelty of a few assorted cryptic comments (on screen) accompanying a correct answer soon wore off; and the engine exploding was a more attractive sight. The sound of the train moving also stopped when a question was set. It would have been better to keep the sound going. An expensive package for what is provided, but my children will get a lot of use out of it. The facility for checking children's actual answers later is a good idea.

Mapwork - Geography Quiz (School Software Ltd) (Disk price £13.95) advertised as suitable for age 10 to Adult. The game offers instructions upon loading, and also warns you that any attempt to copy (make a back up disk) will corrupt/destroy the program. You have to leave the disk in the disk drive throughout the game. The idea is simple - it is a test of your general knowledge of names and locations of towns, mountains, and rivers in England, Ireland, Scotland and Wales. You choose your country and opt to be tested on one or all subjects. You will be shown an outline map of the selected country, an area will be indicated (or blue line in the case of rivers) on screen and you have to identify it correctly. The package also incorporates a facility for 'teacher' to check pupils' answers if so desired.

Opinion: We found that the selection of places was too limited; place names were repeated in a different order if 2 people attempted to answer the same subject one after the other. Place names have to be spelt correctly to be marked as correct. I got marked wrong for 'Stoke' it should be 'Stoke-on-

Trent' - why was I then marked wrong for 'Kingston-upon-Hull' having learnt my lesson by not typing 'Hull'? Assessed as an expensive package designed for use as an aid for someone learning basic topography of Britain and Ireland (say the 1st 2 years at secondary school) - not much practical use to us yet.

Fun School (8-12) (Database Publications (Amstrad)) (Disk price currently £7.95). Purchased some time ago at the Amstrad exhibition. Upon loading you are offered a choice of 10 games/puzzles; each game has instructions which appear when it has been selected.

a. **Anagrams** - jumbled up kitchen objects/food items. Speed test to get points. Limited selection of anagrams which repeat themselves during course of the game. Answers soon learnt by children rather than worked out.

b. **Code Breaker** - computerised version of Mastermind peg game. Guess the colours and order of sequence on a line. Difficult, but frustration makes it addictive.

c. **Hangman** - Guess the word or die. You can input your own words or use the computer's. Select your method of dying before you start - Hanging /Beheading/Firing Squad. You get executed if you make 7 mistakes. Game is only as good as the vocabulary used by players; our children liked the firing squad.

d. **DogDuckCorn** - Get the characters to the other side of the river without actually leaving the Dog alone with the duck, or the duck alone with the corn. Interesting puzzle, but once learnt it is never forgotten; our elder children soon solved it.

e. **Towers of Hanoi** - Move different sized rings from one tower to another without placing a ring on top of a smaller ring. Children soon solved this puzzle as well.

f. **Maths Hike** - A mental arithmetic test. Think of a number, then the computer will tell you to add/subtract/multiply or divide by a number on screen. Pick your own level of difficulty. A good test of mental agility (including adults) as you will get a sequence of instructions before you have to input the answer.

g. **Guessing** - Computer picks a 3 figure number and you have to guess it; using keys to determine higher or lower. Boring.

h. **Odd Man Out** - Given a selection of words, guess which is the odd man out within a short time limit. Easy to guess but can your child do it in the few seconds allowed?

i. **Nim** - Play against the computer to remove sheep from the screen. Player removing the last sheep loses. Rotten graphics but we still haven't beaten the computer after all this time.

j. **Pelmanism** - Find the pairs from the rows of cards which are face down on the screen. It's a speed and memory test because you only get to glance at the cards briefly; you play against the computer. Still haven't beaten the computer at this either.


Opinion: Considering the cost of this disk, as compared with the others above it was a bargain. and very good value for money. Although the puzzles are simple in design and might well have been early type-ins as the CPC was being developed; they are, for the most part, still difficult for the age group being aimed at.

French Mistress (Kosmos Software Ltd) (Disk price £15.95) advertised as suitable for beginners, O-level, GCSE and beyond. It teaches by use of 'flashing' words onto screen with their meaning for a number of seconds (as determined by you). You are then allowed to self test what you have (or haven't) learnt at the end of the loaded lesson. The choice is yours as to which language you wish to be tested in. You have to load a stored lesson into memory before you can view the flash cards. The menu of stored lessons provided on disk for instruction covers a wide selection of headings dealing with everyday life, assorted verbs, conjunctions, adjectives, punctuation, and phrases. The disk will also allow you to create, enter your own lessons, and save them to disk. Instructions for use of the disk are printed in a small booklet which comes with the disk. The key codes to be used for loading lessons are in this booklet. Instructions on disk are virtually meaningless without the booklet.

Opinion: Whilst this package is certainly not cheap; it has a comprehensive data base, is user friendly, and as a teaching aid it is ideal for someone learning french vocabulary. Although it will not teach you spoken French, as a language tape might, it is very good value for money. (Having said that I remember seeing a review of this particular disk some time ago in an old magazine, and it wasn't rated very highly at the time). The above are just personal observations on packages we have bought, what I would now like to see are other people's reactions to software they have bought and any suggestions for good, reasonably priced, educational packages that would be interesting enough for children or students to want to use them. There must be other members who have come across educational software - are they prepared to review what they have got for CPC User?

Disk prices for these products are high, presumably because they do not sell as well as arcade or adventure games; and Dealers are not always as aware of any drawbacks with software they handle as they should be. Personal recommendation is ultimately a lot more valuable to a prospective buyer than advertising. I am a prospective buyer who lives in an area where they do not normally stock the products I wish to buy.

I have already had problems with my children switching off the computer.. without removing the disk from the drive first, I therefore try and make back up

Continued in page 26 

THE GREATEST CON IN THE BOOK

Multi-tasking

A farewell article by ANDRUE COPE

Anyone who has used a mini or mainframe computer at college, (or even at work as I do! Ed.), will have noticed that they can "talk" to several terminals at once..and if you have the savvy, they can do several jobs for each terminal!

To come closer to home, how many people with Protex have used the background print option? I know it's slow, but it demonstrates the principal of multi-tasking. Even nearer to home, have you noticed how your CPC can do two things at once without effort?

Enter and run the following program. When it bleeps, type your name, stop typing after the second bleep.

```
10 PRINT CHR$(7);
20 FOR a%=0 TO 500:FRAME:NEXT
30 PRINT CHR$(7);
40 FOR a%=0 TO100:FRAME:NEXT"
(NB:464 owners, should replace FRAME
with CALL&BD19).
```

Notice how the CPC has logged your key presses, as well as running the loop in line 20. The strange thing about all these examples (particularly the CPC ones) is surely; "How can a single Z80 do more than one thing at once?". The answer is that it can't, doesn't and never will..and the same applies to your college minicomputer in general! The whole set up is a trick. Basically, the computer divides its time between tasks. Its speed allows it to swap from one task to another faster than the human brain can detect. It's a lot like the illusion used in films and TV, where the eye/brain can't respond fast enough to separate more than around 25 frames per second.

Now the problem with the CPC is that the work required to swap from one task to another is prohibitive. Why?; Well, in the same way that TV/film must throw at least 25 frames each second at us, so there is a limit to the amount of time that the CPU can spend on each task. Obviously, if each task ran for one second, you would notice something strange going on if you had-say-five tasks running! Currently, this is what your CPC manages to do:-


Primary task: -Some foreground program. This will be what ever you asked the computer to do; Tasword perhaps, or simply the built in BASIC interpreter.

Auxiliary tasks: 1.Scan keyboard Every fiftieth of a second, the Z80 detours into the keyboard scanning code. It executes around 3K of ROM code before continuing with your program. 2.Flash colours Also performed every fiftieth of a second. The CPU uses the information passed by SPEED INK and INK x,y,z commands to swap the INKs being

displayed for each PEN. 3.Sound queue If programmed, the CPU checks the state of the sound queue and possibly takes some action if it reaches a certain state. 4.Clock timer Three hundred times each second, the clock timer is incremented. As you can see, the Z80 is nearly always doing three tasks, IN ADDITION to the main job at hand! So, why can't we run two programs at once? There are several problems here:-

1.Isolation: The two programs must be mutually isolated. An obvious problem here is the keyboard. Give some thought to the consequences of having Space Invaders running alongside Elite, along similar lines, what about the VDU?! Such problems are termed "resource conflicts" and there are two solutions. Firstly, avoid the problem. It's common sense that you wouldn't run two arcade games at the same time. If we stick to some non-interactive program running in the background (like a print spooler), then these problems will go away. Unfortunately, it isn't that simple, some resources like the disk drive are just too useful.

2.Swapping: It's not only the hardware that raises conflicts. What about the processor's registers. We can save them somewhere..but where? When we interrupt program A to swap to program B, we only have access to program A's resources. Bear in mind that we have to be able to pull the Multiface trick, i.e: restore EVERYTHING when we come back again. Anyone who's interested can try and write a Z80 M/C program to dump all 27 registers (IX, IY, R, SP included) and then return them..not forgetting to store the PC. Well, that's not too hard is it? Right, get them back again. Note: The stack is out of bounds..and anyway, which stack did you mean-program B's or A's or...?! Oh, please remember..we do have other things requiring the processor's time! Of course, all firmware routines would have to be re-entrant. This simply means that they could stop one job half way through, do another job then continue where they left off. Imagine trying to draw two lines on the screen at once, jumping from one to the other after each pixel had been plotted (or maybe half way through plotted)! The technique is to always store values on the stack, but the Z80 isn't very good at that. You can't get the "third value down" without pulling some dubious tricks. Anyway, suffice to say that the Z80 might spend a quarter of it's time doing "housework". Oh, and don't forget, two programs run at half the

Continued in page 26 

FIRST STEPS IN UNDERSTANDING COMMS.
FROM OUR COMMUNICATIONS EDITOR ...

by
TONY
WALKER

A quick guide to
COMMUNICATIONS

Hello. Last time I told you how to get quickly started in comms. This month I will attempt to go into more detail about modems. There are basically two types of modems, manual and automatic.

MANUAL MODEMS: These are modems like the Pace Nightingale, Prism 1000, GEC Datachat etc. On these modems you have to do all the work yourself, from dialling the number on your phone to making the connection between your computer and the host computer i.e. Prestel or a local bulletin board. In practice this is not as difficult as it sounds! On the Pace Nightingale (the only manual modem that I have had experience of) the front panel contains, if my memory serves me right, all the controls that you need to get on line. I think there are three buttons; viewed from left to right they are (1) Data, (2) Originate/Answer, (3) Viewdata/300. If anybody knows differently please let me know! On a manual modem you will be limited to using speeds of 300/300, 1200/75, 75/1200 (Reverse Prestel) and on some models 1200/1200 user to user. Of course you will pay a lot less for a manual than an automatic modem. You should be able to buy a manual modem for between £50 - £100 (RRP) new and a lot less second hand. Shop around for the best price.

AUTOMATIC MODEMS: These are also known as Auto-Dial/Auto-Answer (AD/AA) modems and Smart Modems and as the name implies, are totally automatic in operation. AD/AA modems cost a lot more to buy than a manual model; the price starts at around £130 (RRP) and goes up and up! As with anything that you buy, you get what you pay for. Models of AD/AA modems include the Pace Linnet, Linnet 1200, Linnet 2400, Pace Series 4, Amstrad SM2400 etc. In fact there are nearly as many makes and models of modems as there models of computers! With a AD/AA modem everything from dialling the number to picking up the carrier tone and logging on to the host system is done automatically. With my modem (Pace Linnet V21/23) the only time that I have to do any alterations to the modem is when I want to send some software down the phone line to a BB or to another user using the Reverse Prestel speed of 75/1200. That means sending at 1200 bits per second (bps) and receiving at 75 bps. The basic AD/AA modems (like mine!) only allow you to use speeds of 300/300, 1200/75 and 75/1200, the more expensive models will allow speeds of 4800 bps. and above. Most AD/AA modems use what is known as the HAYES COMMAND SET to allow you to communicate with them via your computer and serial interface. This is a set of commands that all start with the letters 'AT' (short for ATTention). There is a great list of these 'AT' Commands and I don't have the time or inclination to list them all here! Instead I will be sending some document files to Dave Cutts for inclusion in the P.D. Library that will tell you all about them and a lot more about Comms. in general! It has come to my attention some members who have Serial Interfaces made by SPECTRE COMMS and KDS and I have found out that the normal version of MEX.COM will not work with these interfaces. Instead you need a special version of MEX.COM to use with them. I am in the process of getting hold of these special versions of Mex and when I have I will send them to Dave Cutts for the P.D. Library. In the meantime if anybody has one of these interfaces and would like the special version of Mex for the type of interface they have, please let me know and on the receipt of a 3" disc and a S.A.E. I will send it to them by return post.

Please note that with the SPECTRE COMMS. & KDS versions of Mex you will be unable to use Modem speeds of 75/1200 (Reverse Prestel). This is because the overlay that is added to the original version of Mex to create the SPECTRE COMMS. & KDS versions will only support baud rates of 300/300, 1200/75, 1200/1200, and 4800/4800 bps. Last but not least, if there are any readers of CPC User who are also users of The CAGE COMMS ROM (ViewData), and who would like an upgrade of the Cage Rom to take account of the recent changes of the Prestel MailBox System, please send a Mailbox either on PRESTEL MBX. 617924338 or on ASPECTS BB. (061-792-0260) to DAVE GORSKI (Co-writer of the Cage Rom), asking him to please do a upgrade of the Cage Rom, because the only way that we will get one is to keep pestering him! Finally if you need any help or advice please feel free to contact me, by phone, Prestel Mbx, post or in CPC User. Bye for now.

*Bear
Editor...*

YOUR LATEST LETTERS...

Please write to:
THE EDITOR, 4 HIGH WALK, FAREHAM, PO15 6BS

* Machine code help...

GEORGE DYKE of Boscombe writes for a little help:

☐ Could you tell me very simply how to add real numbers in machine code using the vector address &BD58 on a 464. I have "UTOPIA" on ROM. Is the !CALL routine of any use for this?

Has any member information about the program "DISCMASTER" by Angry Bear Software or "ODDBALL" a disc or tape utility probably by the same author. I bought some secondhand discs and these programs were on them but there were no instructions.

If any members are in or visiting my area I am usually about and so would be pleased to see them but I am aged 68 so am not a fast games buff although I have a few games. My main interest is Genealogy (family history) and getting someone else's program and shortening it (some people do have a lot of waste in their programs)

☐ I hope you have good understanding of machine code as this is tricky problem but I'll attempt to tackle the problems one by one.

In answer to your first query, adding numbers in machine code is not as simple as it appears. Firstly the actual number has to be placed in a format the computer can understand. For the Amstrad computer this is five-byte accumulator. This accumulator cannot accessed directly like other registers; it has to placed in memory and is used via its address.

Before you can use the entry point &BD58 you first have to set the five bytes in memory that represent the number. This is not as simple as it sounds because the Amstrad has to have these five bytes in a specified order and have special meaning, that tells the maths routine where the decimal point is and its sign. The conversion from real number to byte format takes the following:

- Step 1: Express the number in binary
- Step 2: Count the number of significant bits before the decimal point and add 128 (&80) to the number to get the fifth byte.
- Step 3: Delete the left-most bit and convert the seven remaining bits into decimal. If the number is negative, add 128, this gives the fourth byte.
- Step 4: To get bytes 3,2,1 group the remaining bits into groups of eight.

Take the example:

Number: -2527
Binary: 1001 1101 1111
Byte 5: 128+12=140 (&8c)
Byte 4: 0011101(base2)+128=157 (&9d)
Byte 3: 240 (&f0)
Byte 2: 0
Byte 1: 0

Once you have converted the number into the above format and stored it in memory you can call the routine by using the following assembly:

```
LD DE,first_number
LD HL,second_number
CALL &BD58
LD (address_of_result),HL
.
```

```
first_number:      DB 0,0,0,0,0
second_number:     DB 0,0,0,0,0
address_of_result: DW 0
```

Of course you would have to write separate routines for entering the number and printing the numbers out. I must admit I always avoid using these maths functions because I always end up with a mega-large program that doesn't really do much.

If you require more information, I got the above information from the following book:
Amstrad : Advanced User Guide by Daniel Martin, Published by Glentop, Pages: 82-85

I never heard of the above software in question so I am unable help you.

- Stephen Gennard.

* The Real You and others!...

And from GORDON WOOLICRSOFT of Otley..

☐ First of all can I thank all those members who contacted me about the transfer of "The Real You" from tape to disc and their kind offers. The problem however is more than just a straight transfer of the sections of the program. I have managed to get all sections onto disc but find that the main program is written in the form of firmware commands to load the subsections from the tape and my knowledge of Basic is insufficient to overcome the problem. In fact just after writing this I have had to amend it to thank B. Barton of Hatfield for his offer of a disc copy of the program.

Now to answer Philip Bayliss regarding his Citizen 120D printer (edition no 17 page 11) - I have a similar printer and have entered this programme to find that I had to replace the LPRINT with PRINT #8, to get it to run and print anything (the result was D D)). Not being familiar with this area of computing I am not sure whether this is the expected result? Back to you Philip.

Finally to Richard Sergeant and his problem of breaking up large text files into more manageable chunks to print them out. I ran across this problem when I found one of the text files on the PD tapes which I had transferred to disc was too long for Protext (Amsdos) to handle. I used a disc editor (in my case I use Locksmith+) to examine the file index and discovered that in fact the file was split into 2 blocks so I renamed them e.g. AACTION1 and AACTION2. When I then catalogued the disc I found that a previous 29K file had become 16K and 13K files which then could be loaded and reformatted etc. I hope this is of help to Richard - if he requires any more information he may contact me (my address is in the PD Tape Library Section).

* PD Modifications...

DICK BOWLER of Carshalton Beaches has been very busy with the PD programs...

☐ I have been doing a little work on the telephone directory files. I have updated the code files "02" to "09" and removed their "Tel" suffixes. The London file has been rearranged into a single column. Having done this the program "SEARCH.BAS" can be used to find any code. These files and the program are on side one of the enclosed disc.

Also on the disc you will find two of the MBASIC programs which I have configured for the Amstrad. you need to use upper case when entering info or program names, the easiest way is to operate Caps Lock as soon as you enter MBASIC.

This may be a good place to comment on the PD7/5 disc from which the above two programs are taken. KPFLY is useless as this is a COM file and would need to be disassembled before it could be configured for the Amstrad. Of the remaining programs DC10 seems to be quite good, Teacher would I should think be most useful to a teacher in setting up tests. Fireman and Draw are not worth configuring. Math, Xmas, Vocab and Kolossus are amusing first time round but that's all. Timer, Spad and Sequ are quite good but there are much better programs in the Public Domain.

Now for a request for help; I have some info on MBASIC but would like some information on the use of the compiler

BASCOM. If anyone out there has this I would be most grateful for it.

☐ Thanks Dick for all the work you have put in to improving the above programs. I have sent your disc to Dave Cutts for the library. If anyone can help with info for BASCOM please write to the magazine and it will be passed on to Dick. -Ed.

* Adventurers Unite!...

A plea to all adventurers from JIM STRUTHERS:

☐ May I urge everyone who loves adventure games as much as I do (and I know there are a lot of you), to please support the people who make a great effort to keep us supplied with puzzles. I am talking about the "Home Brews", John Packham being one. I believe that eventually the adventures will disappear because of the lack of support given to CPCs by the larger companies and we will be left with nothing.

Can you imagine what it will be like not to stay awake all night beside a flask (of what? Whiskey? -Ed.) trying to get somewhere with an adventure. No more enjoyable nights drinking pints of coffee (Oh, sorry, coffee! -Ed.) to stay awake just to crack that one hard puzzle. So I recommend everyone interested in good adventures to look for "Home Brews". Send for John Packham's "City for Ransom" and "Panic Beneath the Sea" or his new game "Project Annihilation" (advertised in page 30). They are all very good value for a paltry sum. Another couple of good games available are "Case of the Mixed Up Shymer" (S. Sharkey, 78 Merton Rd., Highfield, Wigan.) and two games by B. Clows in classic adventure tradition. So please save our adventures and buy a "Home Brew" now. You won't be sorry.

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Printer delight

ANDREW SHARP of Farmoor who is about to desert us for the realms of the PC writes:

☐ Many thanks to Helen Croom. Her article on the Star LC24-10 prompted me to consider and then buy one from MJC and I'm very pleased with it indeed.

Thanks for help

A note of thanks, included with his competition entry, from DAVID MITCHELL of Clacton:

☐ Thank you for printing my "Disgust" listing; at least some of the answers were interesting, if not conclusive.

☐ As long as you weren't disgusted with the answers David! -Ed.

A call for calls

CARL SURRY of Barnet found something of interest in the magazine:

☐ I've just finished reading issue 17 and I would like to say that the "Useful Firmware Calls" on page 14 was a very good idea. Is this going to be a regular feature?

As I can't get hold of the Firmware Guide for my 6128 I must assume it is full of all the calls plus much more, maybe? Any more you print will be gladly grovelled for!

☐ Sorry Carl. Stop grovelling! There aren't any in this issue. There are certainly plenty in the guide (which I have) but unfortunately most are above my head! Perhaps members would like to send in any calls they know for publication and if I get time I will look through the book hopefully to find some that I can understand!

SOMETHING TO SAY?

Write to THE EDITOR,
4 HIGH WALK, FAREHAM,
PO15 6BS

The Editor reserves the right to edit and publish any letter received unless clearly marked "not for publication".

Splitting files

Another letter from GEORGE DYKE:

☐ Reading October's magazine I came to Richard Sergeant's article on the Public Domain programs. I think the answer to his question on splitting files was published in the July 1988 edition of Amstrad Action page 30. I have not put this article on tape as I presume the program is AA copyright and therefore cannot be reprinted here.

☐ Thank you George for your help. As you say, we are unable to print the program listing here but I have sent a copy of your letter to Richard for his information.

Screen planner, almost!

NEIL BUKHARAYEV from Russia writes:

☐ I enclose a program for planning the screen which I hope will be of some interest to the UAUG people. Do you know a poke to disable screen scrolling? The method I use in line 480 of the program is not particularly elegant!

☐ Thanks for the program. Unfortunately neither Tony nor I has been able to get the program to work satisfactorily. Maybe when we have a little spare time we will try again.

FILERID

a useful utility

```

1 MODE 2:INK 0,13:INK 1,0:BORDER 10
2 PRINT "          FILERID          ":PRINT:PRINT
4 PRINT "PROGRAM PRODUCED BY GORDON WOOLLISCROFT FOR
   THE PUBLIC DOMAIN. IT MAY BE GIVEN AWAY BUT NOT SOLD "
6 PRINT:PRINT:PRINT
7 PRINT "This program is short enough to be kept on every
   disc and allows you to erase any program provided you
   type in its full name.":PRINT:PRINT
8 PRINT "To unerase you must use a utility such as
   LOCKSMITH ":PRINT:PRINT
10 PRINT"Ensure disc is in read/write mode then insert
   disc and press a key";a$
20 a$=INKEY$:IF a$="" THEN 20
30 CAT
40 INPUT"Name of file for erasure";b$
50 fil$=b$:IERA,@fil$:CAT:PRINT:PRINT
52 PRINT "ERASE ANOTHER FILE (Y/N)"
55 a$=INKEY$: IF a$=""THEN 55
56 IF a$= "y" OR a$="Y" THEN CLS:GOTO 30
58 IF a$= "n" OR a$= "N" THEN CLS: NEW
    
```

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MAGINDEX by WALTER FEARNLEY

This handy program can be easily customised to suit your own requirements. With very little effort it could be altered to ask whether new input is required or whether to output to screen or printer. Full working instructions are contained within the program.

```

1 'GOTO 500:'*** UnREM (') and Run to insert new data in order
2 z=0:MODE 2:lin=1000:'*** z=0 (screen), z=8 (printer)
3 KEY 138,"edit ":KEY 139,"renum 1000,1000"+CHR$(13):KEY 140,"run"+CHR$(13)
4 PRINT"Do you want instructions (y/n)";ans$:PRINT
5 ans$=INKEY$
6 IF ans$="y" THEN GOSUB 300 ELSE IF ans$="n" THEN 40 ELSE 5
7 '
8 '*** Index program - W Fearnley - 29-8-89
9 '
10 '*** MAGAZINE INDEX: For magazine articles, reviews, adverts.
20 '
40 centre$="COMPUTER MAGAZINES INDEX
50 x=(70-LEN(centre$))/2:PRINT#z,TAB(x)centre$:PRINT#z
60 PRINT#z," Subject"TAB(40)"Book"TAB(52)"Date"TAB(66)"Page":PRINT#z
70 RESTORE:INPUT" List which initial";sch$
80 sch$=UPPER$(sch$):s$=UPPER$(s$)
90 PRINT
100 READ s$,b$,d$,p$
110 l=38-LEN(s$)
120 IF LEFT$(s$,1)>sch$ THEN PRINT#z:PRINT sch$" search
    completed -";GOTO 70
130 IF LEFT$(sch$,1)=LEFT$(s$,1) THEN PRINT#z,s$ STRING$(1, ".")
    TAB(40)b$ TAB(50)d$ TAB(66)p$
140 lin=lin+10
150 GOTO 100
160 '
180 CLS:RESTORE:lin=1000
190 INPUT" List which initial";sch$
200 sch$=UPPER$(sch$):s$=UPPER$(s$):PRINT
210 READ s$,b$,d$,p$
220 IF LEFT$(s$,1)>sch$ THEN PRINT:STOP
230 IF LEFT$(sch$,1)=LEFT$(s$,1) THEN PRINT lin" "s$
240 lin=lin+10
250 GOTO 210
290 '
300 c$="USING THE COMPUTER MAGAZINES INDEX
310 x=(70-LEN(c$))/2:PRINT#z,TAB(x)c$:PRINT#z
320 PRINT#z,"USE RETURN FOR ENTERING. The Enter key is used as a
    function key.":PRINT#z
330 PRINT#z,"Running the program asks for an initial letter. Entering
    a letter lists all items with that initial. Another prompt leads to
    another list. Use for screen reference.":PRINT#z
340 PRINT#z,"Edit z=0 to z=8 (Line 2) for printing, a few letters listed
    on each sheet, a sheet for each letter, or these instructions.
    Prompts are on screen only.":PRINT#z
350 PRINT#z,"DATA is on Line 1000 onwards in alphabetical order.":PRINT#z
360 PRINT#z,"To create your own lists DELETE 1000-.
370 PRINT#z," UnREM (') Line 1 to add or create new DATA using Line
    numbers between tens. Enter key then RENUMs the data.":PRINT#z
380 PRINT#z,"Numeric keypad Function Keys are:":PRINT#z," 138 (.)=Edit.
    139 (Enter)=Renum 1000,1000. 140 (Control/Enter)=Run.":PRINT#z
390 RETURN
400 '
410 'Dummy data follows:
1000 DATA Advanced Art Studio,CWA ACU,Jan May 87,26 18
1010 DATA Bach to Basics,CWA,Feb 86,68
1020 DATA CAD,WM,Feb 86,60
1030 DATA Expansion; Cook,CWA,Jan 85,46
1040 DATA Hexadecimal Revealed,CWA,May 86,18
1050 DATA Icon Toolkit 1-3,PCW,Apl-May 87,44 31 35
1060 DATA Quill,CWA,Dec 85,76
1070 DATA Scroller,CWA,Jan Mar 85,61 65
1080 DATA Z80 Disassembler,CWA,Nov 85,87
1090 DATA z,z,z,z

```

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- INTRODUCTION TO DATA COMMUNICATION. Published by ICC Institute. Written by Murphy and Kallis. Softback, 8x5ins, 80 pages. £2
- EASY ADD-ON PROJECTS FOR THE AMSTRAD CPC AND MSX COMPUTERS. Published by Babini. Written by O.Bishop. Softback, 7x4½ins, 154 pages. £2
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- DESIGN FOR DESKTOP PUBLISHING. Published by Gordon Fraser. Written by J.Miles. Softback, wire bound, 11½x9ins, 103 pages. £9

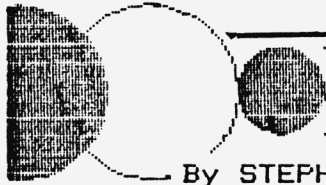
MAGAZINES

- AMSTRAD COMPUTER USER. Bound volume for 1986. £12
- COMPUTING WITH THE AMSTRAD. Bound volume for 1986. £12
- 8000 PLUS. Bound volume; 14 issues Sept 1987 to Oct.1988. £14

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GRAPHICS

PART TWO

By STEPHEN GENNARD (DipHe)

Well where was I? Ah yes, circles and things! Now that we have produced some sort of graphical image on the screen you now want to move the image. Well moving images around the screen is easy when you know how and that's what I'm going to show you.

Transformations:(the art of moving objects!)

First of all the object must be defined as a set of co-ordinates relative to the centre (origin 0,0). You can do the translations relative to any point on the screen but the co-ordinates must be normalised to the origin 0,0.

Once the object has been defined, each point is taken in turn and placed in a translation matrix. A matrix is just a simple table of numbers, but they can be added, subtracted, multiplied and divided just like any other number.

The matrix for a simple scaling operation is as follows:

$$\begin{pmatrix} \text{New X} \\ \text{New Y} \end{pmatrix} = \begin{pmatrix} \text{Old X} \\ \text{Old Y} \end{pmatrix} \begin{pmatrix} \text{Scale}_x & 0 \\ 0 & \text{Scale}_y \end{pmatrix}$$

This is the same as just using the following equation:

$$\begin{aligned} \text{New X} &= \text{Old X} * \text{Scale}_x \\ \text{New Y} &= \text{Old Y} * \text{Scale}_y \end{aligned}$$

If the object is to be translated to another position on the screen just subtract the differences between the new origin and old origin. e.g.

$$\begin{pmatrix} \text{New X} \\ \text{New Y} \end{pmatrix} = \begin{pmatrix} \text{Old X} \\ \text{Old Y} \end{pmatrix} \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix} + \begin{pmatrix} -x1 \\ -y1 \end{pmatrix}$$

$$\begin{aligned} \text{New X} &= \text{Old x} - x1 \\ \text{New Y} &= \text{Old y} - y1 \end{aligned}$$

Can you see why the matrix is handy? Well we are building a matrix of information about what is to be done to the object. By altering the values in the matrix all kind of weird and wonderful things can be done, eg move an object to a position, scaling it then rotating it.

But how do you rotate an object? Well it's very simple, just apply the matrix below with the angle in 'a' which is anti-clockwise.

$$\begin{pmatrix} \text{New X} \\ \text{New Y} \end{pmatrix} = \begin{pmatrix} \text{Old X} \\ \text{Old Y} \end{pmatrix} \begin{pmatrix} \cos a & -\sin a \\ \sin a & \cos a \end{pmatrix}$$

$$\text{New Y} = -(\text{Old x}) \sin a + (\text{Old y}) \cos a$$

Now for a few specials! With the matrix it is also possible to do such things like a 'sheer', which just pushes the object to the right; try it out and you'll understand what I mean. The translation matrix is:

$$\begin{pmatrix} \text{New X} \\ \text{New Y} \end{pmatrix} = \begin{pmatrix} \text{Old X} \\ \text{Old Y} \end{pmatrix} \begin{pmatrix} 1 & \text{Sheer}_y \\ \text{Sheer}_x & 1 \end{pmatrix}$$

$$\begin{aligned} \text{New X} &= \text{Old x} + \text{Sheer}_x (\text{Old y}) \\ \text{New Y} &= \text{Old y} + \text{Sheer}_y (\text{Old x}) \end{aligned}$$

Well, that finishes the lecture, now on to the fun stuff. I have included a little demonstration of what can be done with some of the above formulae. This time I have produced the demo solely in Basic as Hi-soft 'C' does not support floating point numbers. The program works well but is very slow and could not be used for real time animation. That completes my little tour of simple computer graphics; next time I shall be solving the mysteries of yet another language, what will it be? Stay tuned and remember a good programmer never dies - he just gets deleted!

```

10 DATA "Letter F",6
20 DATA 0,0, 0,30, 30,30, 0,30, 0,15, 15,15
30 MODE 2 : ' set mode
40 GOSUB 1000 : ' setup data array
50 ORIGIN 300,200 : ' setup origin
60 GOSUB 2000 : ' display data
70 GOSUB 3000
80 ky$=""
90 WHILE ky$=""
100 ky$=INKEY$
110 WEND
120 ky$=LOWER$(ky$)
125 CLS : ' Ensure blank screen
130 IF ky$="s" THEN GOSUB 4100
140 IF ky$="r" THEN GOSUB 4500
150 IF ky$="m" THEN GOSUB 5000
160 IF ky$="c" THEN CLS
170 IF ky$="n" THEN noclear=NOT noclear
180 GOTO 50
1000 REM ** Read In Data to array **
1005 sx=2 : sy=2 : ' default scale factors
1010 READ name$
1020 READ how.many
1030 DIM shape(how.many,2),tran(how.many,2)
1040 FOR n=1 TO how.many
1050 READ shape(n,0)
1060 READ shape(n,1)
1070 NEXT n
1080 RETURN
2000 REM ** Draw Object **
2005 CLS : MOVE 0,0 : sx=1.5 : sy=1.5
2010 FOR n=1 TO how.many
2020 DRAW shape(n,0)*sx,shape(n,1)*sy
2030 NEXT
2040 RETURN
2500 REM ** Display Translation **
2505 IF noclear THEN MOVE 0,0 ELSE CLS : MOVE 0,0
2510 FOR n=1 TO how.many
2520 DRAW tran(n,0)*sx,tran(n,1)*sy
2530 NEXT
2540 RETURN
3000 REM ** Setup screen **
3010 WINDOW #1,10,70,22,24
3020 PAPER #1,1 : PEN #1,0 : CLS #1
3030 LOCATE #1,5,2: PRINT#1,"Demo What : Scale, Rotate,
Move [Set/Reset No clear]"
3040 RETURN
4000 REM ** Rotate It **
4005 DEG
4010 REM ** a=angle **
4020 FOR n=1 TO how.many
4030 tran(n,0)=(shape(n,0)*COS(a)) + (shape(n,1)*SIN(a))
4040 tran(n,1)=(shape(n,1)*-SIN(a)) + (shape(n,1)*COS(a))
4050 NEXT
4060 GOSUB 2500
4070 RETURN
4100 REM ** Scale Demo **
4110 FOR a=0 TO 360 STEP 10
4120 GOSUB 4000:sx=sx*1.02
4130 GOSUB 4000:sy=sx*1.02
4140 NEXT
4150 RETURN
4500 REM ** Perform Rotate Demo **
4510 FOR a=0 TO 360 STEP 10
4520 GOSUB 4000
4530 NEXT
4540 RETURN
5000 REM ** Moving demo **
5005 sx=1.5 : sy=1.5
5010 FOR x=0 TO 180 STEP 5
5020 y=SIN(x)*200
5030 ORIGIN x+220,y+100
5040 GOSUB 4000
5050 NEXT x
5070 RETURN

```

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What the readers say about Issue One :- 'Extremely professional presentation', 'Very useful', 'Excellent', 'Articles are clearly explained', 'I really enjoyed the Machine Code section', 'The best magazine on the market', 'Impressive'.

PERSONAL VIEWS continued from page 13

The last PD disc I tried out, this month, is on PD 1/5. It is a CPM based program called SECRETARY. SECRETARY is not a true word processor like PROTEXT or TASWORD, it is a lined based text editor and has a lot of similarity to writing your text in BASIC. Once again, a disc based manual is included and I attempted to print it out using SECRETARY.COM. I can only say politely that perhaps, I have a bugged version. My several attempts to produce hardcopy from the various files was only partially successful. Thus I was not able to print a complete booklet. Should anyone have succeeded in mastering this program, if indeed it is a problem and

not just me, please let me know. However in my some what blinkered view, my converted disc based version of EASI-AMSWORD is probably easier to use and far more reliable. A year ago, the very thought of tackling CPM+ would leave me cold, however now with a bit of experience, and a lot more confidence, I find it has so much to offer, I would rather stay in that operating system than return to AMSDOS. CPM+ may not seem too friendly, at the first meeting, or even on the second or third, practice is the answer. Tell it what to do accurately, and it will jump through hoops. And now for my next trick.....!

INTERCEPTOR continued from page 7

longer is it necessary to dump MO II in order to rename or erase files.
 G. Print file. Well, it does, but unfortunately it does not generate any line feeds so your twenty page epic all ends up being printed on one line. I don't think the printer platen appreciates this much, either.
 H. List file. This is supposed to print a file on to the screen. Unfortunately the right-hand end of each line is off the screen.
 I. takes you back to the previous menu and you have to go through this to get back to MO II. I would not have thought

that a direct return would have been too difficult to incorporate into the program.
 To sum up, therefore, "Interceptor" has a number of highly desirable features which certainly make MO II easier to use, and it can be used with some other programs. Unfortunately, like so many other new products these days it seems to contain a number of bugs. My advice would be to await the "Mark 2" version in the hope that these get sorted out. You might then have a very good utility indeed.

Written by JOHN PACKHAM
Reviewed by JIM STRUTHERS

PROJECT ANNIHILATION

Having played John's previous games "Panic Beneath the Sea" and "City for Ransom" and enjoyed them immensely, I had high hopes when I settled down to play his new game. I was not disappointed.

Although I played the tape version (text only) this did not detract from the play whatsoever, even though I usually prefer a game with graphics. The strength of John's games are in the puzzle content I've found.

In "PROJECT ANNIHILATION" your task is to enter a top secret establishment that manufactures biological warfare weapons and do whatever is necessary to a new weapon which is in danger of becoming unstable after a lunatic managed to break in and detonate a bomb. Life can be complicated at times can't it?

Written in mode 2, it gives plenty of room on screen to try out any long commands you wish to type in. You start with one or two small puzzles to get things under way and you think you will solve the game, no bother! Think again, because as you become more involved in the play, the odd puzzle can be rather devious. I ended up on more than one occasion going to bed with a problem to ponder over. This, to me, is the mark of a good game. There are quite a few objects to find in order to complete some parts, but this makes the game more exciting. It is written using ADLAN, hence the lack of graphics on tape versions but the gameplay flows along at a nice steady pace. I urge anyone interested to buy all John's games as they are very good value and I've bought worse games for a lot more money. This is an author who can go far if he keeps this up and I can't wait to play his next game. Keep up the good work, John; adventurers need you!

PROJECT ANNIHILATION

Tape £2.50 : Disc with graphics £4.50
Direct from John Packham
(see inside front cover for address)

GAMES REVIEW

from page 9

You play the part of Matt Trakker, the leader of Mask. Your son has been kidnapped by none other than Miles Mayhem, and it's your task to locate and rescue him. Unfortunately, you can only operate on your own, but scattered about the game are several masks, enabling you to pass most of the defences.

The graphics in the game are pretty standard; they remind me a lot of Dizzy and the like, but they are indeed adequate. Sound effects are kept down to a bare minimum, with the usual dose of explosions. The game is a flick screen type, where once you've reached the opposite side of the screen, rather than scrolling, the whole things clears to make way for the next scene.

Various obstacles and defences stand in your way including Death Spheres, Serpents, Angels of Death.

I found myself playing it for a good couple of hours this morning, and I shall definitely be going back for more. I think you'll probably enjoy it, and seeing as how it's on a compilation, you can't go wrong.

SOUND.....	6 (not enough)
PICS.....	6 (pretty standard)
PLAYABILITY.....	9 (you just have to beat the last score)
VALUE FOR MONEY...	8
OVERALL.....	7

The whole compilation is made up of (generally) great games and it's one that I think would make an ideal Christmas present. Check it out now!

EDUCATIONAL SOFTWARE

from page 15

copies of my discs wherever possible. Should a disc become corrupted as a result of an accident I would have no back up facility available for some of the above products. (Not strictly true - as an exercise I found that Discology coped with the discs that said they would be corrupted if copied). Other customers may not be so fortunate and will have to rely on the goodwill of the company to replace their product if it is corrupted.

I know there are other computer magazines besides the three I still get, I cannot afford to buy them all, nor do I have the time to read them. This is a side to serious software that I am genuinely interested in for the benefit of my children. Constructive criticism or recommendation could save us, and other parents/students, from buying something completely inappropriate for our requirements.

MULTI-TASKING

from page 16

speed. Four at a quarter the speed..! More modern processors have provided facilities to change this. The 8086 (the PC processor) addresses all these problems. Unfortunately tasks have a 64K memory limit imposed on them which is silly. Some mini-computers overcome the problem by having multiple processors, but that takes the fun out of it, not to mention raising the cost.

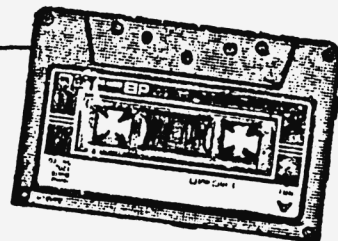
Anyone who jokes about their college computer's lack of speed should bear in mind that some of them have the same processor as the QL...and often perform several hundred tasks at once!

If you have access to a UNIX system, try "PS -EF" or "PS" on its own, to list most of the tasks being run!

Conclusion: Unfortunately, I have reached a crisis point. For the last six months I have tried to fit Photography, Computing, Reading and Women into my life. Since I don't get home until six during the week, it's been a tight squeeze. I've decided that I can't afford to run two computers, so with regret (and I do mean that) I'm having to drop the CPC.

I'm sure that Steve Gennard can more than make up for the loss (or perhaps the gain). I'd just like to thank everyone concerned with UAUG for all their help, especially the PD librarians past and present, who are probably heaving a sigh of relief!

Cassette Users' PD LIBRARY



At the present time the response is reasonable at the rate of about one per month, as a result there is at the moment not a long waiting list. Having written this you can now be sure that the demand will rocket! From the small amount of feedback I have received to date I get the feeling that those members who request the tapes are or have just begun computing with the 464.

However I hope to send out a questionnaire in the coming months to all those who have received the tapes and also to each member who requests the tapes. I may then be in a better position to offer an improved service to 464 owners.

One problem which has arisen with the use of the TVSAT program is that 464 owners will get a message "syntax error in line 380". This was brought to my attention by a recent borrower of the tapes and for a while it left me puzzled until I realised I was thinking in 6128 Mode and not 464 Mode !

For those of you who have this program on tape and are using a 464 proceed as follows to correct it so that it will run on your machine:-

- 1) LOAD the program using Load "TVSAT" and ENTER.
- 2) Type EDIT 380 (ensure there is a space between EDIT and line number) and press ENTER.
- 3) You should get -
380DATA 13,7,-4,-27.5,-8,19,-31:'Sat Longitude data
- 4) DELETE the ' in front of Sat - REPLACE with REM followed by a space
- 5) Press ENTER and LIST the program TO ENSURE THAT THE ALTERED LINE HAS BEEN ENTERED IN THE LISTING. If not repeat the procedure.
- 6) You will then have to save the new program BEFORE you make any attempt to RUN it! (on a spare tape is best). The program should then run properly.

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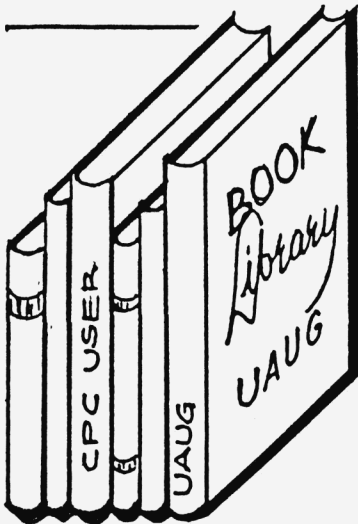
Those programs from the library which should run on a 464 have been collected together onto three C60 tapes. Disc to tape copying is a time consuming task and so we have decided to adopt a different system for the tape owners wishing to obtain tape compatible PD software. Please send FOUR 1st Class postage stamps (NB FIRST CLASS POST IS NOW 20p) to me and I will send you all 3 library tapes. You may then copy those programs you require and return the library tapes. PLEASE RETURN THE TAPES WITHIN 2 WEEKS, as another member may be waiting for them. (Use original Packing)

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We hope to add to this list in the future. Please patronise these companies to make it mutually worthwhile.

MEMBERSHIP RATES:

New members	(UK) £7.00	(Europe) £10.00	(Overseas) £14.00
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The United Amstrad User Group was founded in 1986 by a handful of dedicated CPC enthusiasts. Membership now extends throughout Britain and overseas. The continuing success of the group is due to the low membership fee and the five-star service; this includes:

- * Bi-monthly magazine
- * Computer book library
- * Public domain software
- * Discount agreements
- * Comprehensive help, advice and support

The magazine is written by CPC users for CPC users and contains authoritative reviews and articles as well as other regular features specific to the Amstrad CPC computers, including Mailbox (for general correspondence) and Contact for member-to-member contact and help. The magazine carries trade and members' advertisements; members' ads are published free of charge.

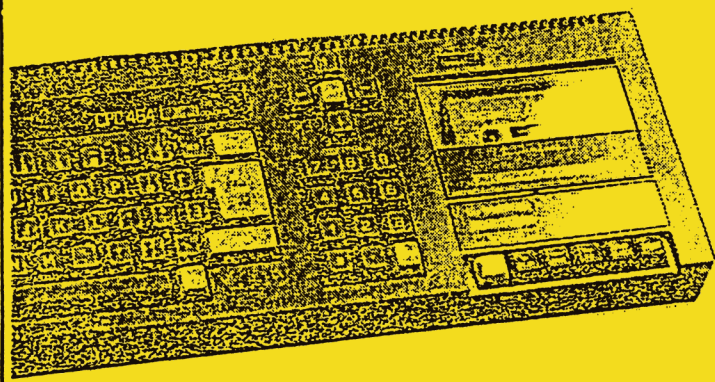
The Computer Book Library is operated by post and is open to all members. Books may be hired by the month for a nominal fee. Most books have been donated and are specific to the CPC.

The Public Domain Library contains many programs covering games, business, educational, utilities and programming languages. The library is open to all members and is free of charge.

CPC

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