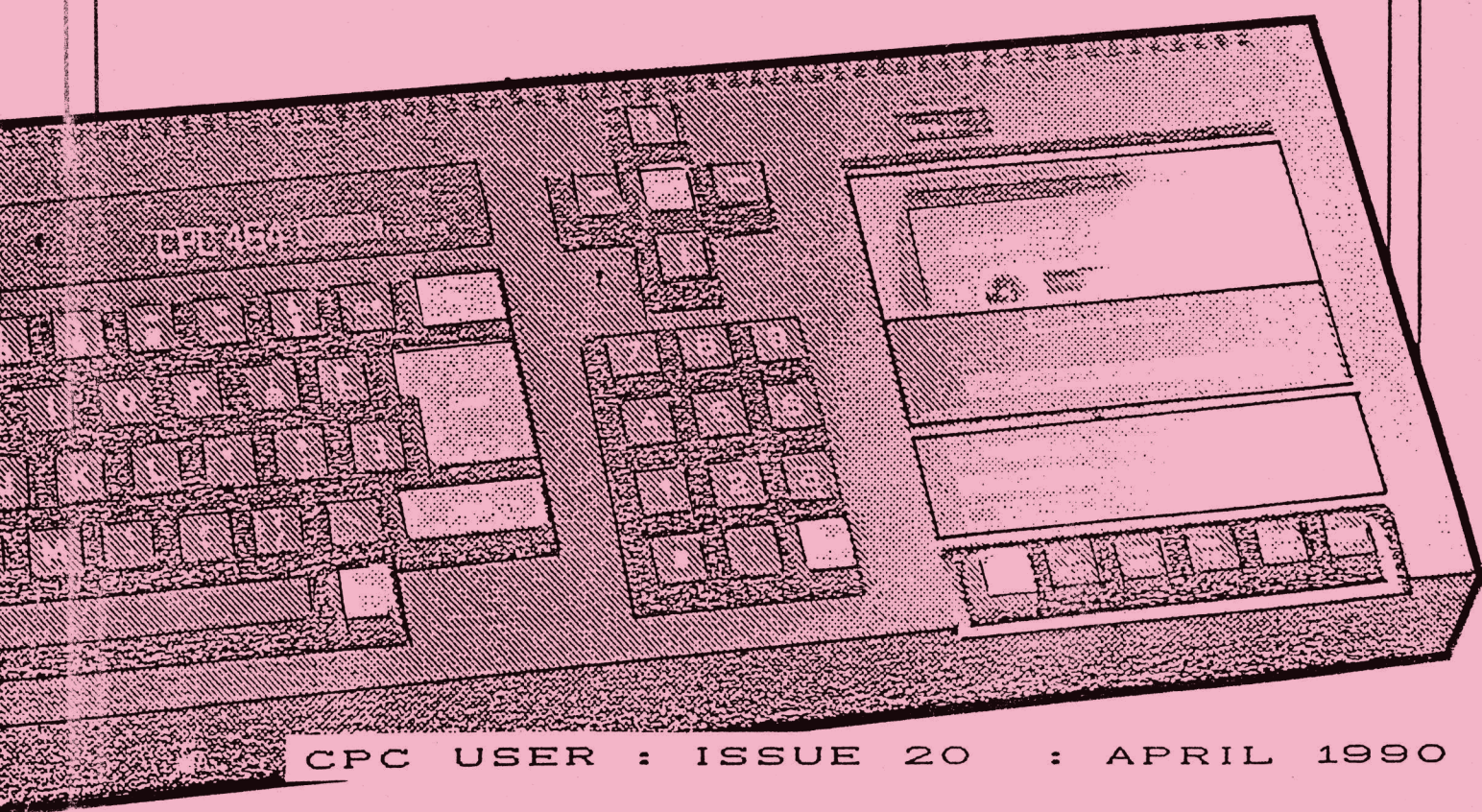


CPC

USER

THE BI-MONTHLY MAGAZINE
OF THE
UNITED AMSTRAD USER GROUP



CPC USER : ISSUE 20 : APRIL 1990



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The bi-monthly magazine is written by CPC users for CPC users and contains authoritative reviews and articles, and other regular features specific to Amstrad CPC computers including **Mailbox** (for general correspondence), **Contact** for member-to member contact and **Monitor** (members' soap-box). The magazine also carries trade and members' advertisements. 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 of the books have been donated and are specific to the CPC computers. The **Public Domain Software Library** contains many programs covering games, business, educational, utilities and programming languages. The library is open to all members and is free of charge.

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From the Editor...

My thanks once again to all the members who sent letters and articles for the magazine. Special thanks to all our regulars and to Don Snoad who, although relinquishing the editor's chair some time ago and changing computer, still finds time to contribute to the magazine and help members with their problems.

However, there is always room for more so get cracking with that article or letter you have inside you and send it to me (on a disc or cassette please) today!

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COPY DEADLINE



MAY 5th is the latest date for contributions to issue 21 but to help me to prepare the magazine and earn a living at the same time, please send them well in advance of this date if possible.

The Editor.

CHAIRMAN'S BIT

Dear Members

Some time ago I was asked why so many of our Officers and Editors lived in the Solent area, so I thought I would tell you something about the early days of UAUG.

Our present Treasurer, Gary Carter, together with some friends, started the Group back in 1986. The first publication was a five page Newsletter which was issued in January 1987. The first issue of CPC User appeared in November 1987 and had by then expanded to 24 pages. With an increasing membership, volunteers from other parts of the country were found for some of the newly created posts on the UAUG Committee. Meetings are held three or four times a year to which all Officers and Editors are invited. Those who live too far away to attend personally can send in items for discussion together with their own views and of course all Committee members are sent a copy of the Minutes of every meeting.

It might be of interest to you to know that our Programming Languages Editor, Stephen Gennard, who lives in Newbury makes a six hour round trip to Fareham to attend our meetings. We are grateful to him for his enthusiasm. At our recent meeting he asked for suggestions for future articles from him. If there is anything you would like him to write about please get in touch and he will try to oblige.

Finally a suggestion for members who would be willing to take over any of the UAUG posts. Let me know which job you would like to do so that I can draw up a reserve list of Officers and Editors. In the event of a future resignation I would then be able to contact a volunteer without delay. At the moment I have to publish details of vacant posts in CPC User and this means quite a long delay in filling any vacancy. Obviously with our present system of holding Committee Meetings it helps to have certain posts filled by members living in this Solent area, but who knows what the future holds? If the Committee was ever spread throughout the country then a different method of communication could be established. Any volunteers for Chairman?

Regards, 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.

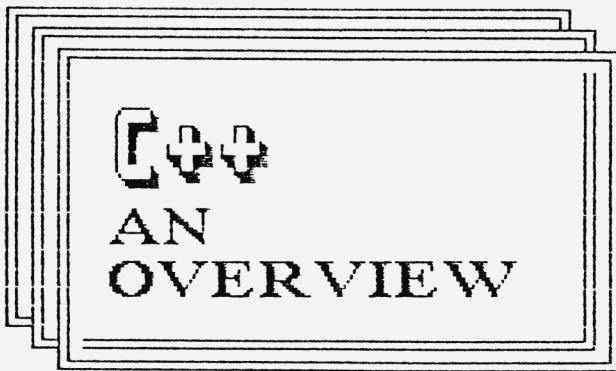
Help with problems on a varied subject list except hardware and assembly language (full details on request): contact COLIN EVANS, Windsor Crescent, Monk Bretton, Sth. Yorkshire, S71 2LU.

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

DAVID JAY, 4 Orchard Place, Westbury, Brackley, Northants. NN13 5JT needs help in transferring files created with MiniOffice 11 into Protext also with entering negative numbers into Masterfile 464. Your postage will be refunded.



By Stephen Gennard, DipHe

INTRODUCTION

Many readers may have read previous articles on the language C. Some of the more aware may have heard of an alternative version of C called C++ (pronounced "see see plus"). What is C++?

C++ is a general purpose language designed to make programming more enjoyable for the serious programmer. Except for minor differences C++ is a subset of C. C++ was designed to be:

- be better than C
- support data abstraction
- support object-oriented programming structures

Many features added to C++ were taken from the original C language itself but languages such as simula67 and algol68 have influenced C++.

C++ has been in use since early 1982 and has been ported to over 1500 installations such as: AT & T 3b series, DEC VAX series, Intel 80286, 80386, 80486, Motorola 68000 and Amdahl machines all using Unix and other operating systems. So the language is still as portable as the original C compiler.

WHAT'S GOOD ABOUT C?

C is not the cleanest language ever designed so what makes it popular?

- it is flexible, you can apply C to almost any application area, mainly because C has no inherent limitations,
- C is efficient, the semantics of the language are low-level; which is the fundamental concept of C,
- C is available on almost all computers, from Amstrad to super-mainframes,
- C is portable; a program can be written on one machine and transferred to another and will run, often without alteration.

Because C is so flexible it lacks the usual

safety nets such as exception handling, strict type matching, type conversion (coercion). But in the new C++ many of these features have been enhanced, mainly at run-time but still uses hardly any overheads.

One of the disadvantages of C is the lack of type checking and coercion; in the C++ compiler this has been altered. Now if you use the following example it will perform as expected.

```
double sqrt(n)           |This would give a run
double n;                |time error as 2 is
{                          |taken as an integer
    /* etc */             |and no coercion is
}                          |performed, normally
                           |this should be:
double sq2=sqrt(2);       |double s2=sqrt
                           |((double)2);
```

Many other features lacking in the original C such as overloading functions, variable parameter passing (this does exist but it is now much easier!), constant variables, data abstraction and support for object-oriented programming.

Most of the above is beyond the scope of this simple overview but should be noted for reference.

On the whole the new C++ standard is another great leap for the C language and guarantees it a great future. I would advise anyone who understands BASIC and is serious about programming or seeking a career in computers to get to grips with the language.

For more information see:
Sigplan notices V21, 10 October 1986
(Bjarne Stroustrup, AT & T Bell Laboratories,
Murray Hill, New Jersey)

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FEATURE

ANOTHER LOOK AT THE UAUG PD SOFTWARE

by RICHARD SERGEANT

**MORE
PERSONAL
VIEWS . . .**

Some time ago a letter plopped onto my hall mat, which galvanised me into action, the result being this article. John Stanford, our editor had forwarded two letters written to him in answer to a few queries and problems I had experienced whilst compiling the article that appeared on pages 24 and 25 of CPC User Issue 17. [Was it that long ago? -Ed.]

Firstly my thanks to George Dyke of Bournemouth for his suggestion for splitting up large ASCII document files into more manageable chunks. He mentioned an article originally published in Amstrad Action Issue 34 page 30. He said he had not tried it personally; well I can assure him that it does work. I used it some months ago on the 114K long SCRIVNER.DOC file without too much trouble. However I solved the very large file print-out problem a different way, I bought the CP/M Plus version of PROTEXT and set it up to use the CP/M Plus version of QUALITAS. Now, as I use a double density 3.5 inch second disc drive, I can happily handle files of over 200K in length, the only sacrifice is speed. PROTEXT has to create temporary files all the time and this can be very time consuming.

The second letter came from E. E. Meachen of Market Harborough, Leicestershire (please E.E we aren't that formal, let us know your first name) who wrote offering advice about curing the trouble I was having with connecting my ROM board to the expansion port of my 464. I would like to thank him (or is it her) for the advice which included cutting a slit in the rear of the disc drive interface and soldering an edge connecting strip to the PCB as a through connector. I found a different solution, I phoned ROMBO the ROM board manufacturer and a very helpful young man suggested that perhaps my problem was caused by my not correctly lining everything up when plugging in the various bits and pieces to my expansion port. In the case of the edge connector of the d'ktronics 64K expansion memory it is possible to misalign the through contacts. I returned to my machine and very carefully plugged the ROM board into the rear of the 64K pack and pressed in two small pieces of blu-tack either side of the connector to stop any further sideways movement. My Amstrad speech synthesizer and disc drive interface were then plugged into the ROM board through connector, I switched on and for the first time I had the normal sign-on message plus the extra ones for MAXAM and BCPL, and when I attempted to CAT a disc the drive whirled and everything worked perfectly. It is now over six months since I sorted out this problem, and all still functions perfectly normally. Having now got my ROM board to work I have found using MAXAM to write CP/M Plus Z80 code extremely easy, after sorting out all the errors and warning messages it will create a '.COM' program direct from the source code without the need for 'HEXCOM' and the load of extra files that other assemblers seem to produce. In my humble opinion there is nothing in the Public Domain to touch it.

I wonder how many users with colour monitors don't use CP/M Plus because being in MODE 2 they find their screens difficult to read. Try this little tip; insert your copy of your CP/M Plus system disc (not the master) and boot up by typing 'CPM'. After a few minutes the sign on CP/M message appears on a dark blue background with bright white letters, not the the best combination you must agree. Try this, type PALETTE 21 0, the colour combination is now grey background with black characters, now isn't that much better to read.

Whilst on the subject of CP/M, I was playing around with a very nice public domain program called SUPERZAP.COM which is to be found on PD 4/1. My version for some reason was called ZAP35.COM but it turned out to be Superzap version 3.5, so I expect it is the same. Also on my disc I didn't get the SUPERZAP.DQC file but not to worry as in Issue 36 of the Amstrad PCW 8000 Plus magazine was a nice little article all about this wondrous program. The reason I was using Superzap was to find where in the file C10CPM3.EMS was hiding the CP/M character set, as I had read that this could be altered to a version which had a more pleasing style and was easier to read.

The first step was to load Superzap, a menu appeared containing instructions for various key presses and a directory listing of the current disc drive. Now, I positioned the cursor against the name of the file I wanted to load and pressed 'E' Edit file, from the directory list I had chosen C10CPM3.EMS, the file loaded and the first eight HEX dump lines were displayed. The procedure for finding where the character set starts is quite easy, select 'H' which then asks for the HEX string to search for, in this case I entered eight pairs of double zero's this being the equivalent of ascii character 32 or a 'SPACE'. Pressing <ENTER> produced a rapid scan of the .EMS file and the HEX string was found. I investigated further to find the numbers started at 1380, uppercase 'A' at 1408 and lowercase 'a' at 1508. At this point I left Superzap as I had already decided to do all my altering using SID. Once more I must repeat my warning don't use your original system discs only,

copies. Put in side two of your system disc and type SID, the # prompt will appear. Turn the disc over and type EC10CPM3.EMS. With the program loaded, jot down the numbers under NEXT which should be 6500, you will need this later when saving your altered file.

My next problem was that the information I had gleaned from Superzap wasn't quite correct, the Superzap dump starts at 0000 and SID at 0100 so all my memory locations for the character set had to be increased by 100, thus the position of 0 (zero) was now 1480. If you now type d1480, SID will dump the 10 lines of code, which represents ascii character 48 (the zero) through to ascii character 63 (the question mark).

What follows in this article I hope won't appear too boring, for it contains rows and rows of numbers. You may like to experiment with this list to alter your existing CP/M Plus character set.

As an example to alter the rather squashed zero to a fatter version, type in S1480, the program responds with 1480 38 now type 7C and press <ENTER>, 1481 6C now appears, type C6 <ENTER>, 1482 CE just press <ENTER> as we don't want to alter this code. 1483 D6 press <ENTER>, 1484 E6 press <ENTER>, 1485 6C type in C6 and press <ENTER>, 1486 38 type in 7C and <ENTER>, 1487 00 just type in a .<full stop>. You are now returned to the # (hash) prompt. Type the following command at the prompt WC10CPM3.EMS 100,6500-1 (ignore the single quotes) this will now save your altered file. Press <CTRL>-C to exit from SID. Reset your computer and now reboot CP/M, I think you will be rather pleased with your altered zero character.

If that little experiment tickled your fancy load SID again and as promised the following lines contain all the altered figures for the new character set, where a two digit number/letter differs from the original enter these new characters, where the characters match just press enter, when you have reached the end of the lowercase 'z' your task is complete, so follow the steps mentioned in the previous paragraph to save the altered version of the .EMS file.

```
1480 7C C6 CE D6 E6 C6 7C 00 18 38 18 18 18 18 18 00 -- 0 -- -- 1 --
1490 3C 66 06 3C 60 60 7E 00 3C 66 06 1C 06 66 3C 00 -- 2 -- -- 3 --
14A0 1C 3C 6C CC FE 0C 0C 00 7E 60 60 7C 06 66 3C 00 -- 4 -- -- 5 --
14B0 3C 66 60 7C 66 66 3C 00 7E 06 06 0C 18 18 18 00 -- 6 -- -- 7 --
14C0
```

Now carry on pressing <ENTER> until the address 1508 appears

```
1508
1510 7C 66 66 7C 66 66 7C 00 3C 66 C0 C0 C0 66 3C 00 -- B -- -- C --
1520 78 6C 66 66 66 66 6C 78 00 7E 60 60 78 60 60 7E 00 -- D -- -- E --
1530 7E 60 60 7E 60 60 60 00 3C 66 C0 C0 CE 66 3C 00 -- F -- -- G --
1540 66 66 66 7E 66 66 66 00 7E 18 18 18 18 18 7E 00 -- H -- -- I --
1550 0C 0C 0C 0C CC CC 78 00 66 66 6C 78 6C 66 66 00 -- J -- -- K --
1560 60 60 60 60 60 60 7E 00 6C FE FE D6 D6 C6 C6 00 -- L -- -- M --
1570 C6 E6 F6 DE CE C6 C6 00 7C C6 C6 C6 C6 C6 7C 00 -- N -- -- O --
1580 7C 66 66 7C 60 60 60 00 7C C6 C6 C6 DA CC 76 00 -- P -- -- Q --
1590 7C 66 66 7C 6C 66 66 00 3C 66 60 3C 06 66 3C 00 -- R -- -- S --
15A0 7E 18 18 18 18 18 18 00 66 66 66 66 66 3C 00 -- T -- -- U --
15B0 66 66 66 66 66 3C 18 00 C6 C6 C6 D6 FE FE C6 00 -- V -- -- W --
15C0 C6 6C 38 38 6C C6 C6 00 66 66 66 3C 18 18 18 00 -- X -- -- Y --
15D0 FE 06 0C 18 30 60 FE 00 -- Z --
```

Carry on pressing <ENTER> until the address 1608 appears

```
1608
1610 60 60 7C 66 66 66 7C 00 00 00 3C 66 60 66 3C 00 -- b -- -- c --
1620 0C 0C 7C CC CC CC 74 00 00 00 3C 66 7E 60 3C 00 -- d -- -- e --
1630 3C 66 60 78 60 60 60 00 00 00 3C 66 66 3E 06 3C -- f -- -- g --
1640 60 60 7C 66 66 66 66 00 18 00 18 18 18 18 18 00 -- h -- -- i --
1650 06 00 06 06 06 66 66 3C 60 60 66 6C 78 6C 66 00 -- j -- -- k --
1660 30 30 30 30 30 36 1C 00 00 00 6C FE D6 D6 C6 00 -- l -- -- m --
1670 00 00 5C 66 66 66 66 00 00 00 3C 66 66 66 3C 00 -- n -- -- o --
1680 00 00 7C 66 66 7C 60 60 00 00 7C CC CC 7C 0C 0E -- p -- -- q --
1690 00 00 7C 66 60 60 60 00 00 00 3C 60 3C 06 7C 00 -- r -- -- s --
16A0 30 30 3C 30 30 36 1C 00 00 00 66 66 66 66 3C 00 -- t -- -- u --
16B0 00 00 66 66 66 3C 18 00 00 00 C6 D6 D6 FE 6C 00 -- v -- -- w --
16C0 00 00 C6 6C 38 6C C6 00 00 00 66 66 66 3E 06 3C -- x -- -- y --
16D0 00 00 7E 0C 18 30 7E 00 -- z --
```

Don't forget the full stop

Well, gentle reader that just about concludes my article for this month, it may seem that it doesn't appear to have much to do with PD software, but to be honest it does, if it hadn't been for the wealth of CP/M software available in our library my interest in CP/M programming may never have been created and nurtured. I hope you like your new character set, and if have you any ideas for improvements please feel free to experiment and keep me informed. Bye for now, so until the next time...

FEATURE

EXPLORE THE HIDDEN DEPTHS OF YOUR PRINTER...

MIKE CATTON SHOWS YOU HOW



and the EIGHTH BIT

Most printers can reproduce the IBM graphics character set, which includes a wide selection of Greek characters, mathematical symbols, and "box" symbols from which such things as tables and family trees can be constructed. Different printers however access them in different ways, and from comments I have seen in the magazines and queries put to me there is considerable confusion about how to use this facility. A very common belief for instance is that the KDS port is necessary, whereas in fact fitting it is of little help.

The difficulty, which is not peculiar to the CPC, arises because with many computers it is not possible to generate an 8-bit character from the keyboard. Some, such as the PC family have an "Alt" key that enables an additional 128 characters to be generated, much as the Shift key switches in an additional character set. The CPC and many others do not have this facility however. With some of these an 8-bit character can be generated from Basic, but the 7-bit limitation of the CPC and some others prevents even this. This limitation of the keyboard is why the KDS port is of little help, since fitting it would do no more than enable 8-bit characters to be sent from Basic.

FIGURE ONE shows the characters used to produce the printout, FIGURE TWO

To overcome this deficiency of the keyboard, most printers recognise codes that cause the incoming 7-bit characters to be translated to their 8-bit counterparts. ESC > instructs the printer to treat subsequent characters as if their 8th bit were a 1, effectively adding 128 to the character number, while ESC = sets the 8th bit back to 0. Of the common printers, the Epson LX800 is the only one I know of that does not have this facility.

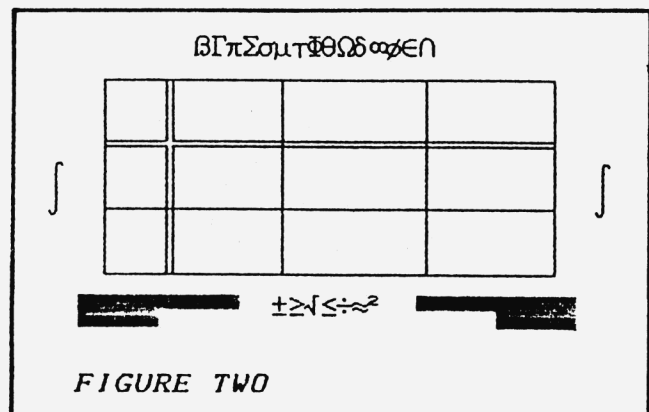
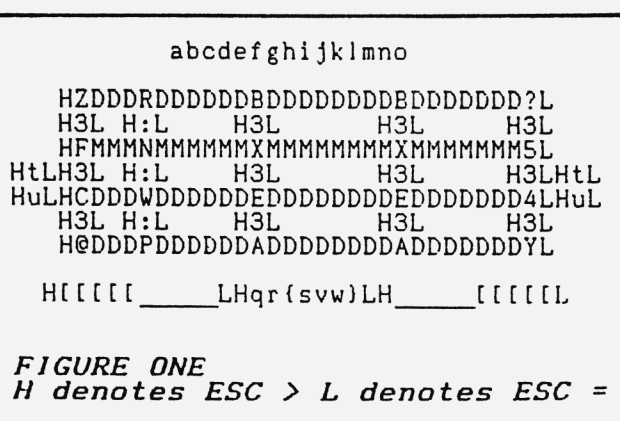


FIGURE TWO



In addition to sending these codes, it also necessary to select the IBM character set and to arrange that codes 128 to 159 act as control codes, not printing characters. This last is necessary to prevent the control codes 0 to 31 being turned into characters, which produces spectacular chaos. These two functions unfortunately are not standardised, each printer performing them in a different way, so that it is necessary to consult the particular printer's handbook for the details. Several printers use the codes ESC t 1 to select IBM and ESC t 0 to revert to Epson, while others use different codes. Some, such as the Amstrad 3160 use ESC t 1 to produce IBM set 1 in which 128 to 159 are control codes and ESC t 2 to produce IBM set 2 in which they are printing characters. Others use ESC 7 to make them control codes and ESC 6 to make them characters. And so on and so on. There are umpteen variations on these themes and it's necessary to consult the manual to see how the particular printer tackles them. The effort's well worth it since these additional 128 characters provide such things as bar charts, family trees, and mathematical symbols. I use this character set extensively, and I hope these comments will encourage readers to explore this aspect of their printer.

EDITOR'S NOTE

My apologies to Mike for the delay in publishing his interesting article.

Unfortunately I was at first unable to print the IBM characters in a controllable form. However thanks to Mike's help I found that it is quite simple. The problem I had was that my Citizen 120D printer needed ESC # to turn off the 8th bit.

Mike has kindly offered to assist anyone with printing problems on receipt on a SAE. His address is 11 Battery Close, GOSPORT, PO12 4PR.

DO IT
YOURSELF

RSXs

By
PHIL CRAVEN

EASY STEPS TO WRITING YOUR OWN

Most of us are quite familiar with the CPC's bar commands. Disc drive owners will be familiar with !CPM, !TAPE, etc. Many of them are RAM based but RSXs (Resident System Extensions) do the same job and are RAM based commands. Writing your own RSXs is quite easy providing you do it right. In this article I will show you how and, as space is limited, I'll get straight into it.

We'll keep things simple by writing two short RSXs. One to make the printer print in condensed type and the other to turn condensed off. These we will call CON (condensed on) and COFF (condensed off) and they will be accessed as bar commands. Since the RSXs will be in machine code, we will also write a BASIC program to load them. It is important to realise that the CPC will not recognise any RSX if it isn't laid out correctly. If things aren't where they're supposed to be, it won't work.

could be anywhere	4 byte system 'work space'	SYSTEM WORK SPACE
	pointer to Name Table	
2 or 3 bytes per jump	Jump block	EXTERNAL COMMAND TABLE
	one for each command	
	Name table	
		
could be anywhere	actual RSX routines	

SYSTEM WORK SPACE

This could be located anywhere in RAM except under a ROM. i.e. between &4000 and &BFFF. Of course it would be silly to put it where it would overwrite something else. To keep it all nice and tidy, we'll stick it at the front of the External Command Table. In our load routine we will tell the system where it is located and, after that, we can forget about it as it is for the system's use.

EXTERNAL COMMAND TABLE

We will also tell the system where the Name Table Start address is. As you would expect, these two bytes contain the start address of the name table. Immediately after this must come the Jump Block. What these jumps are will soon become very clear.

Although the Name Table itself could be anywhere in RAM (not under a ROM), it is convenient to place it after the jump block but it must be layed out in a special way. It has no start marker as the computer can get its start address as we have seen. However, each command name (e.g. CON) must be loaded here, in capitals, without the bar (!) and with bit 7 of the last character of each name set to 1. Add &80 hex to set bit 7 to 1. So the !CON command name would be loaded in the table thus:-

```
byte 1  C      = &43
byte 2  0      = &4F
byte 3  N+&80 = &4E+&80 = &CE
```

In order, the bytes would contain:- &43 &4F &CE. That 7th bit of the last character informs the system that it is the last character of that name. The very next byte would contain the 1st character of the next name. The end of the name table must then be marked with &0, so if CON were the last name in the table, the bytes would be:- &43 &4F &CE &0. Incidentally, spaces are not allowed in command names.

Again the actual programs which perform the tasks such as !CON and !COFF may be anywhere in RAM (not under a ROM) and again we will keep things neat by putting it with our tables.

DO-IT-YOURSELF RSXs continued

CPC OPERATIONS

When a bar command is issued, say from the keyboard, the CPC will look for it in both the RSX commands and in any roms. Since it has a list of all Name Table's Start Addresses, it simply has to search each table in turn for a match. In doing so, it keeps a count of the names in the list it is searching. If the command is found at say the 4th name down a list then all it does is count down to the 4th jump in that lists jump block and jump to the address it finds there. The address it finds is of course the actual program which performs the command. That is why the jump block must follow the Name Table Start Address. The system has one address and it can therefore find the other. You will no doubt realise that the jumps in the jump block must be in the same order as the names in the name table.

That's all there is to it. It might take one or two reads and some thought to fully understand but it is really very simple. Now we know how to lay things out, we can get down to writing our two RSX commands.

THE PROGRAM

We are going to lower HIMEM to make space for our RSXs and we'll need to know how much space to make. To find out, we can write each piece separately and join it all up later and, for those who don't own an assembler, we'll write it long hand. It would be easiest to follow if you get a pencil and paper and actually write this down as we do it.

The easy bits:- for a start we can set aside 4 bytes for the work space. Then 2 bytes for the Name Table pointer although we don't yet know which address to put in it. Your paper might now look like this:-

```
byte 1 - \
      2 - \ work
      3 - / space
      4 - /
      5 namtab staddr low
      6 namtab staddr high
```

Then we need 3 jumps in our jump block, one for each name:-

```
7-9  &CE x x JR CON
10-12 &CE x x JR COFF
```

Again we don't yet know where they'll jump to. Now we'll add the name table:-

```
13  &43 C
14  &4F O
15  &CE N + &80
16  &43 C
17  &4F O
18  &46 F
19  &C6 F + &80
20  &0
```

At last we've got some real contents. Remember the end marker? It's in byte 20. After that we can add the actual programs to turn condensed on and off. Nothing could be simpler. The CPC's firmware has a nice little CALL to send a character to the printer. All we have to do is load the character in the accumulator, call this routine (MC PRINT CHAR) and RETURN to keyboard or BASIC control. Using your machine code book and your printer's manual you will find the following will load the correct printer control character into the accumulator to turn 'condensed' on and off:-

```
On - &3E &0F LD A &0F Off - &3E &12 LD A &12
```

The firmware call to send these characters to the printer is &BD2B. So we can continue laying out our RSX as follows:-

```
21-22 &3E &0F load acc 'cond on' code
23-25 &CD &2B &BD call 'send printer' routine
26  &C9 RETURN
27-28 &3E &12 load acc 'cond off' code
29-31 &CD &2B &BD call 'print character' routine
32  &C9 RETURN
```

Except for those blank addresses we now have our complete RSX program and we just need a simple little BASIC program to load it into the correct place in RAM. We could now work out the correct data to put into the blanks but that would only work as long as HIMEM were always in the same place. As HIMEM is not always the same we need to fill the blanks in with respect to the current HIMEM address. That will be taken care of in our loader program. As for the loader proggy, space is getting very tight so, as it is in BASIC and not difficult to

DO-IT-YOURSELF RSXs continued

understand, I will simply list the program together with some notes and leave the rest for you to work out which, as it happens, is the best way of learning.

Program:	Notes:
10 MEMORY HIMEM-32	make space for routine
20 tmp=HIMEM+1	Work Space
30 GOSUB 900	start address
40 POKE &4000,lo	temporary store
50 POKE &4001,hi	used by LOG EXT.
60 tmp=tmp+4	Command Table
70 GOSUB 900	start address
80 POKE &4002,lo	temporary store
90 POKE &4003,hi	used by LOG EXT.
100 tmp=tmp+8	Poke Name Table
110 GOSUB 900	address pointer
120 POKE tmp-8,lo	into Command Table
130 POKE tmp-7,hi	start address.
140 POKE tmp-6,&c3	Poke jump table
150 POKE tmp-3,&c3	instruction codes.
160 tmp=tmp+8	work out and
170 GOSUB 900	poke the
180 POKE tmp-13,lo	first jump to
190 POKE tmp-12,hi	address.
200 tmp=tmp+6	work out and
210 GOSUB 900	poke the
220 POKE tmp-16,lo	second jump to
230 POKE tmp-15,hi	address.
240 tmp=tmp-14	Poke the Names
250 FOR x=0 TO 19	and
260 READ d	RSX programs.
270 POKE tmp+x,d	
280 NEXT	
290 FOR x=0 TO 9	Poke LOG EXT
300 READ d	program. see
310 POKE &4004,d	below for
320 NEXT	details.
330 CALL &4004	run LOG EXT.
340 END	
400 DATA &43,&4f,&ce,&43,&4f,&46,&c6,&00	
410 DATA &3e,&0f,&cd,&2b,&bd,&c9,&3e,&12,&cd,&2b,&bd,&c9	
420 DATA &2a,&00,&40,&ed,&4b,&02,&40,&c3,&d1,&bc	
900 hi=INT(tmp/256)	find high byte
910 lo=tmp-(hi*256)	and low byte of
920 RETURN	2 byte address.

Right. There's yer BASIC loader. I haven't made it as short as it could be. Instead I've tried to make it easy to follow. Again it would be best understood with pencil and paper. Follow the 'tmp' variable. I've used it as a marker to find necessary addresses. Even the machine code progs could be shortened.

I haven't yet mentioned LOG EXT. This is a system routine which logs RSXs into the system and it must be run. See below for details. I've chosen to run it from &4004 and used &4000 - &4003 to store the data it needs.

MISCELLANY

I chose to send control codes to the printer for this example as they are very short routines and quite useful but using the method described you can write much bigger RSXs. Most printer control codes require more than one byte to be sent; e.g. 'double width on' needs &1B &0E. To do it you just send the first character by LD A 1st CHAR and CALL &BD2B, then the next and finally RETURN. The information I have tried to get across is the layout of RSXs and the way in which the CPC operates them. If this is understood then writing them becomes a doddle. Perhaps we might get some really fancy RSXs being sent in for publishing in future issues of CPC USER. Through the months I will be listing some useful system calls together with the way they work which might be useful in RSXs. We've already used two so we'll make them the first:-

MC PRINT CHAR called at &BD2B

Tries to send a character to the printer port or time out if the printer is busy for too long (or off line).

CONTINUED IN PAGE 10

"Should we all upgrade to MSDOS machines?"

or "Where has all the CP/M PD software gone?"

In issue 19 Don Snood referred to the possible demise of the CPC fueled by the lack of support for the machine from some software houses. If my experiences with PD software are anything to go on, I would have to agree with him.

Two of my friends at work have recently upgraded their 8 bit machines for PCs. They are always talking of the latest MSDOS PD/Shareware software they have bought and have shown me the many catalogues they have from the various companies dealing in MSDOS PD. Some of these books are professional, glossy affairs with full descriptions of the programs.

For a long time now, I have been looking for outlets of good CP/M PD software (by now we have all got or don't want fractal programs or 10 liners that clear the screen in a thousand ways etc). The UAUG is obviously doing its part, but is that it?

Some of the CP/M based magazines have recently had articles on PD. Between the lot of them they came up with only four outlets. One of the magazines didn't even bother to give addresses! Having tracked down addresses, I sent SAEs to three of these places for details. So far after three weeks only one has replied (the one that requested money up front).

Is there CP/M PD software about to rival the likes of "As Easy As" for MSDOS machines? If there is, why hide it?

If the CP/M based machines do not get the support from the software houses and the PD libraries then I really do think the CPCs days are numbered.

What do you think?

KEN DRYDEN

☐ OPINIONS EXPRESSED IN MONITOR DO NOT NECESSARILY REPRESENT THE VIEWS OF THE UAUG OR ITS OFFICERS.

DO-IT-YOURSELF RSXs continued

● FROM PAGE 9

Entry: Accumulator contains the character to send.

Exit: Carry true if successfully sent.
Carry false if unsuccessful (timed out).
Accumulator and all other flags corrupted.
All other registers preserved.

ENTRY (before calling the routine) - it is for you to load the accumulator with the correct character to send.

EXIT (after the routine has been called) - The carry flag can be tested to verify a successful send. (We could have done this in our RSXs but simplicity was better I think). If the existing flags are needed after the call, they must first be saved on the stack and recovered afterwards. The rest of the Z80's registers need not be saved on the stack as they are not affected by the called routine.

KL LOG EXT called at &BCD1

This must be called to include an RSX on the CPC's list of external command tables. Without it the computer wouldn't know of the RSXs presence.

ENTRY: BC contains the address of the RSX's command table

HL contains the start address of a 4 byte area of RAM for the system's use. (work space).

EXIT: DE corrupt

All other registers preserved - including flags.

As always, the 'entry' conditions are for you to set up and the 'exit' conditions are what you end up with.

Y A H T Z E E

PART SIX

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

This month, I had hoped to finish off this program, but taking another look at it, I thought that your poor little fingers wouldn't be able to stand the pace, so I decided to leave out the longest SUBroutine until next time, when I shall also be giving you the rules of play. However, there is still a fair amount of typing to do this time, and I suggest that you take extra care when typing it in, because it will be all too easy to make mistakes with this little lot. So, without any further ado, here we go.....

```

5000 REM****CHECK FOR YAHTZEE****
5005 scores%(co2,choice)=0:flag%(co2,choice)=1
5010 IF dice%(1)=dice%(2) AND dice%(2)=dice%(3) AND dice%(3)=dice%(4)
    AND dice%(4)=dice%(5) THEN scores%(co2,choice)=50:flag%(co2,14)=1
5020 LOCATE#co2+1,1,choice+1:WRITE#co2+1,scores%(co2,choice):RETURN
5030 REM
5040 REM
5050 REM
6000 REM****ADD DICE FOR CHANCE****
6010 scores%(co2,choice)=dice%(1)+dice%(2)+dice%(3)+dice%(4)+dice%(5)
    :flag%(co2,choice)=1:LOCATE#co2+1,1,choice+1
    :WRITE#co2+1,scores%(co2,choice)
6020 IF scores%(co2,choice)=(5*dice%(1)) AND flag%(co2,14)=1 THEN
    scores%(co2,14)=scores%(co2,14)+50
6030 RETURN
6040 REM
6050 REM
6060 REM
7000 REM****CHECK FOR HIGH STRAIGHT****
7005 scores%(co2,choice)=0:flag%(co2,choice)=1
7010 IF a$="12345" OR a$="23456" THEN scores%(co2,choice)=40
7020 LOCATE#co2+1,1,choice+1:WRITE#co2+1,scores%(co2,choice):RETURN
7030 REM
7040 REM
7050 REM
10000 REM****CHECK FOR LOW STRAIGHT****
10010 scores%(co2,choice)=0:flag%(co2,choice)=1
10020 IF a$="12345" OR a$="23456" THEN scores%(co2,choice)=30:
    GOTO 10070
10030 b$="":FOR a=1 TO 4:b=a+1
10040 IF VAL(MID$(a$,a,1))=VAL(MID$(a$,b,1)) THEN
    b$=b$+MID$(a$,b,1):a$=MID$(a$,1,b-1)+MID$(a$,b+1,5-b):a=5:
    GOTO 10060
10050 NEXT a
10060 IF INSTR(a$,"1234")<>0 OR INSTR(a$,"2345")<>0 OR
    INSTR(a$,"3456")<>0 THEN scores%(co2,choice)=30
10070 LOCATE#co2+1,1,choice+1:WRITE#co2+1,scores%(co2,choice):RETURN
10080 REM
10090 REM
10100 REM

```

Now for the explanation!

LINE 5005...The scores% array we've already met. As we've met before, the FLAG for the Yahtzee score box is set to 1. This is set whether you've scored a Yahtzee or not, because if you choose to put your latest score in the Yahtzee box and you haven't got 5 identical dice (Yahtzee) then a score of 0 is placed there so beware. Once a score is placed in a particular box, then that box's flag is set to 1 to prevent another score from overwriting it (so you can't cheat!).

LINE 5010...As I said, a Yahtzee is 5 identical dice, and this line checks to see if all 5 dice are the same; dice%(1)=dice%(2)...dice%(2)=dice%(3) and so on. If they are identical, then a score of 50 is placed in the Yahtzee box, and another flag (14) is set to 1 to signal the fact. This is so that any future Yahtzee's will add on a bonus score. This line could have been written as....

IF dice%(1) AND dice%(2) AND dice%(3) AND dice%(4) AND dice%(5) THEN....
but I thought that the chosen method is easier to read and understand (which is probably more than this explanation is!).

LINE 5020...This simply places the score in the correct place on the screen.

LINE 6010...There may come a time in the game, when your score cannot be placed anywhere because of the combination of dice. This is the role of the CHANCE box.

Continued in page 20



CP/M PRINTMASTER

John Stanford's article on Siren's PRINTMASTER (CPC USER, Issue 16, pages 10-11) reminded me that I have a program of the same name which I obtained from the USA a few years ago. The PRINTMASTER program I have bears no clue as to its origins and there's no documentation. Whereas the program from Siren Software runs under AMSDOS and is a print enhancement utility, my program runs in the CP/M environment and is primarily for designing and printing specific types of "document". There seems to be no connection whatsoever between the two identically-named programs. For the sake of clarity, I'll refer to my program as CP/M PRINTMASTER.

CP/M PRINTMASTER is supplied on two discs and ideally requires two disc drives. The system disc, for use in Drive A, contains 23 files totalling 110k; the data disc, for use in Drive B, contains 15 files totalling 184k. Some of the files on the data disc may need to be transferred to the system disc or to a second data disc to render the discs suitable for use on an Amstrad CPC. It is important not to delete files that may seem to be superfluous; for example, the system disc includes the file SDISKS which takes up 0k (yes, zero !) of disc space, yet if this file is deleted the program will not run. A dot matrix printer must be on line before using the program, otherwise the program will 'hang'; also, continuous stationery is preferable to cut sheets, to avoid paper jams.

Load CP/M PRINTMASTER by entering PM at the A> prompt. The program is entirely menu driven and offers a wide range of features. The Main Menu presents a list of 5 types of "document"; these are: Greeting Card, Sign, Stationery, Calendar and Banner; the menu also includes options for Graphic Editor and Printer Setup. Selecting one of the document options will take you through a series of sub-menus which enable you to design, edit and print a document using a combination of graphics, text input and fonts. The graphics sub-menus offer a range of 125 symbols and logos which can be utilised singly, in groups or in patterns and in small, medium or large sizes. The 8 fonts available are shown actual size in Figure 1; these can be used in solid, outline, 3D, rain or chequered texture in normal (as shown) or large size (the letters shown in Figure 1 are all capitals; however, the full range of lower case letters and numbers, etc, are included in each font). A facility for incorporating borders in the document allows for designs using Thick or Thin Lines, Frame, Paper, Nouveau, Cars, Feet, Bang, Lace, Ants or Christmas Tree. The overall graphics effect can be utilised in Small, Medium or Large sizes and in Staggered, Tiled or User Defined patterns.

On completion of layout design, a window is displayed to enable the user to enter the text of his/her choice. Facilities are provided to enable font and/or texture selections to be changed. In addition, a few key commands can be used to centralise or bias text left or right, or to alter entered text. The commands are displayed on-screen below the text window.

The Printer Setup menu offers 5 options; namely: Select Printer, Test Printer, CR only, CR and LF,

DON SNOAD resurrects a 'golden oldie' specially for CP/M users.

and Finished. The Select Printer option provides 6 printer drivers; these are: Epson FX, Toshiba, OK182, OK192, Stargem and CitoH. The final sub-menu allows the user to Print or Save the designed document, or to revert to Printer Setup or to Main Menu. Unfortunately, no provision is made for previewing the finished document (possibly because many of the early CP/M computers were not equipped with a graphics video display adapter).

The Greeting Card format prints two images on a single sheet which can then be folded into four to present the images as a front and an inner 'page', each page being about 105mm wide by 150mm high. Each page can be set-up with a combination of graphics and text using any 2 of the 125 logos combined with any 2 selections from the 11 border patterns plus any 2 of the 8 available fonts.

The Sign format prints a full page using any combination of graphics, border and text to make up a single-sheet mini-poster.

CONTINUED ►

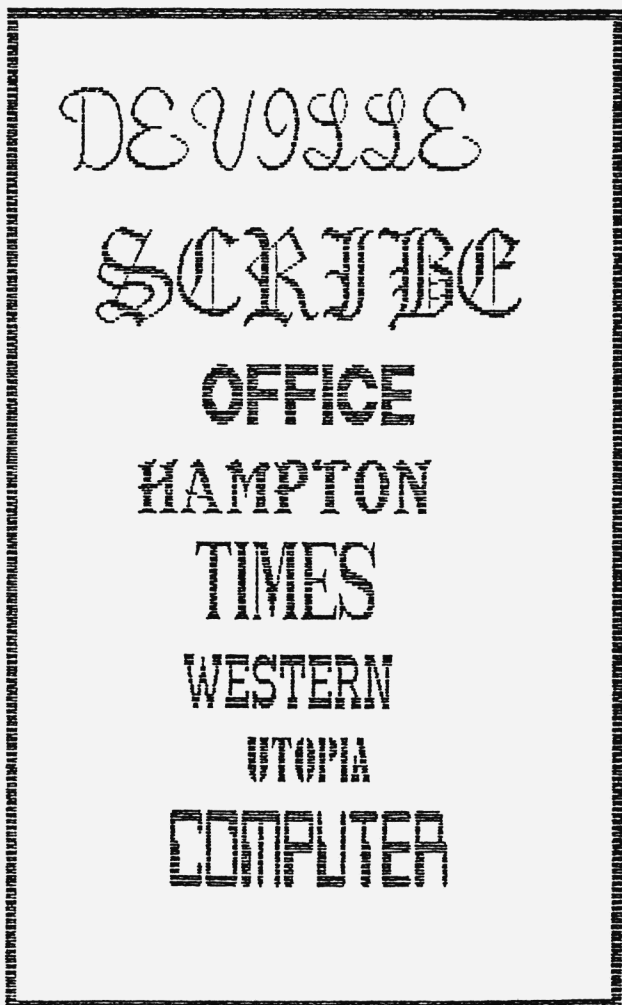


FIGURE 1

The Stationery format prints a 'blank' page with a 3-line letter-head and a one-line footer using any combination of graphics and font.

The Calendar option leads to sub-menus offering the option of printing a monthly or a weekly calendar, utilising the user's choice of graphics and fonts. The weekly option allows for numbered or add-your-own date formats and provision is made for inserting a maximum of 3 lines of user-defined text in any calendar date.

The Banner format rotates the images through 90 degrees and prints a banner over a maximum of 8 consecutive pages. The design can include one or two logos which will be printed approx. 180mm high by 230mm wide with the chosen text input appearing in banner form between the logos. Without logos, the maximum input, including spaces, is 30 characters. With logos, the number of characters will be reduced but the maximum banner length remains the same (i.e. 8 pages). If less text is required, the banner length will be shortened accordingly. Banner text can be in any 1 of the 8 available fonts and can be in solid, outline, 3D, rain or chequered texture; the text will be printed proportionally-spaced. The height of

printed text varies according to the font and texture selected. For example, solid Times will approximate to 250 point (about 88mm high), whereas outline Hampton will approximate to 148 point (about 68mm high).

The Graphics Editor is not functional in this version of the program.

Photo-reduced samples of printed output are reproduced in Figure 2.

As stated earlier, CP/M PRINTMASTER gives no indication as to where, when or by whom it was developed. My American supplier believes the program to be in the 'public domain'. On that supposition, I am willing to supply copies of the program to members on receipt of two discs (3 or 5¼ inch) and a stamped, self-addressed, jiffy bag or disc mailer. However, should it become evident that the program is not in the public domain, this offer will be instantly withdrawn. The copies I will supply will be direct copies of my own discs; it will be the recipient's responsibility to re-organise the discs and files to suit the computer on which the program is to be run.

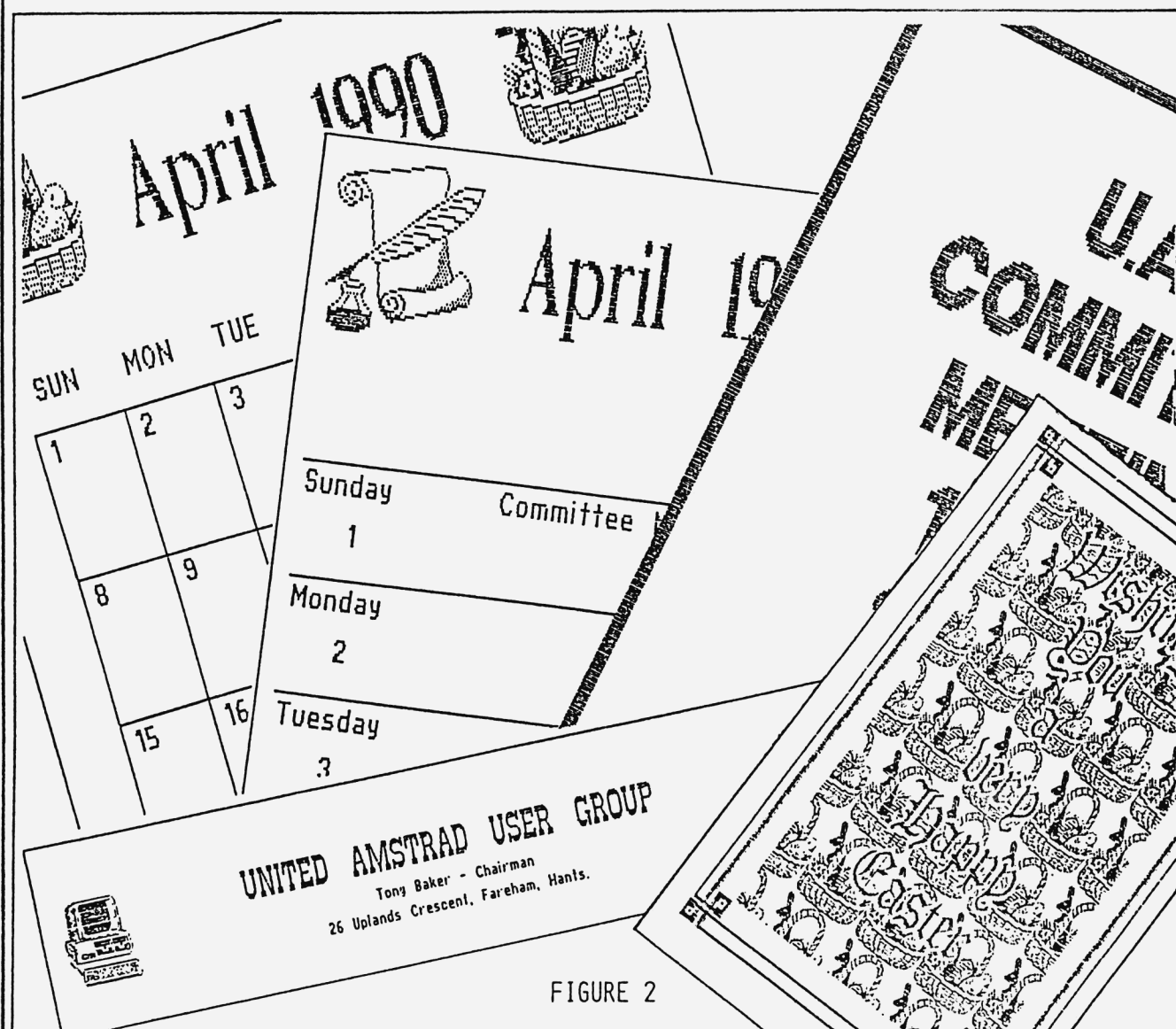


FIGURE 2

PROGRAMMING

FORTRAN

PART THREE

A NEW SERIES
BY
TONY BAMBRIDGE

Hi folks! As you will see this issue's article is taken up with a discussion on arithmetic operators and variables, then finally a bit more on the differences between Fortran 66 and Fortran 77.

As before, I will try to relate our knowledge to our small sample program. I have decided to re-state the small program given last time so you do not have to refer to the last issue. So, if any of you are eagerly waiting for me to give you the details of how to compile and run the program, please be patient as I want to discuss all the program before I run it. However that does not stop you from reading the manual and trying it yourself if you so wish. For those who are going to try here's a few points to note on creating the source code with ED80.

The Nevada Fortran compiler (mine anyway) is a bit fussy, especially regarding blank lines, as these are not acceptable to the compiler and will generate an error forcing you to return to your source code via your text editor. To avoid this annoying trait and to avoid calling me bad names under your breath, make sure you remember the following:

a) Always start at line one when creating your source code. If want to create space then use the COMMENT STATEMENT i.e. C in column one.

b) This is by far the easiest mistake to make (well I think so). In the last line of our program (which is given below) our last command is END. Make sure that after the D hit the return key ONCE only otherwise you generate another line and hence the compiler loses its temper, followed by your temper! Well that's all for that now so let's carry on with this issue's Nevada Fortran.

We'll start with a reprint of last issue's program:

COLUMNS

1.....7.....

```
C PROGRAM 1 Nevada FORTRAN PART 2
C CALCULATES CIRCUMFERENCE AND AREA OF CIRCLE
C DATE 19-10-87
C PI = 3.14159
  READ (0,*) 'ENTER RADIUS OF CIRCLE ',RADIUS
  CIRC = 2 * PI * RADIUS
  AREA = PI * RADIUS * * 2
  WRITE (1,*) 'AREA OF CIRCLE = ',AREA
  WRITE (1,*) 'CIRCUMFERENCE OF CIRCLE = ',CIRC
END
```

We can now delve into the Nevada Fortran language a bit further.

3.1 Arithmetic Operators

In the program above there are two statements which contain arithmetic operators; these are statements seven and eight. The complete list of available arithmetic operators is given below.

Exponentiation using * *	Multiplication using *
Division using /	Addition using +
Subtraction using -	

In our program we have only used the first two, that is exponentiation (* *) and multiplication (*). I am sure you are familiar with the above except possibly the exponentiation (* *). You will have used the UP ^ on the CPC for this. Well I think that is all that we need to know at present on arithmetic operators as I am sure you are like me and can count to ten (well I can sometimes).

3.2 Variables

In the last issue we talked about numerical constants so I thought I would pick up where we left off and discuss variables. There are four types of variables in Nevada Fortran these are:

a. Integer Variable	b. Real Variable
c. Double Precision Variable	d. Logical Variable

Declaration Of Variables

Variables may be declared **EXPLICITLY** or **IMPLICITLY**. First we will deal with variables which are **IMPLICITLY** declared, again remember we are only discussing numeric integer or real variables.

Implicit Variable Declaration

Most of the variables we use in Nevada Fortran will be given symbolic names. These names may consist of ONE to SIX alphanumeric characters. Each name **MUST** begin with a letter. This letter unless the variable is **EXPLICITLY** defined (see later) will dictate whether or not that particular variable is a **REAL** or **INTEGER**. The **RULES** are as follows:

If your variable name **BEGINS** with the letters **I,J,K,L,M,N** then that variable will be treated as an **INTEGER** variable.

If your variable name **BEGINS** with any other letter then that variable will be treated as a **REAL** variable.

Let's now consider our small example program; the **REAL** variables are:
RADIUS, CIRC, AREA

You will notice that none of the names **BEGINS** with **I,J,K,L,M,N**, therefore the variables **MUST** be **REAL**.

Let's now consider **Explicit Declaration of Variables**

Explicit Variable Declaration

It is possible to override **IMPLICIT** variable declaration and for this we use **EXPLICIT** variable declaration. Lets see how we do it!!

Here are a few examples on declaring your variables **EXPLICITLY** and of course I will be writing a further program to illustrate **EXPLICIT** variable declaration.

Consider a variable name **LOAD** and we want this variable to be a **REAL** variable. If we use **LOAD** without **EXPLICITLY** defining **LOAD** then the above rules apply and the compiler will **ASSUME** it is an **INTEGER** variable and therefore it will report an error as the variable **LOAD** begins with **L**.

To define our variable **LOAD** all we do is this:
REAL LOAD (don't forget to start at column 7)

This variable will now be treated as a **REAL** variable and the compiler won't lose its temper and report an error.

Likewise for **EXPLICITLY** defining an **INTEGER** variable we would do the following:
INTEGER SPEED (don't forget to start at column 7!)

Where **SPEED** is the **INTEGER** variable which would otherwise be treated as a real variable.

Well that's all on programming for this issue; let's now have a look at some more compatibility.

3.3 Compatibility

I will now give you some more information on the differences between Fortran 66 and Fortran 77 - so here it is!!!

6. In Fortran 66 **READ *** and **PRINT *** are not available but in Fortran 77 they are.

As we know Nevada Fortran is based on **ANSI 66** but with extensions and the **READ *** as you will notice appears in our program but in a different format. So you will no doubt know now what I am going to write about in the next issue. Well that's all for now wishing you many **HAPPY** hours computing without the computer losing its temper! **BYE**.

**CALLING
ALL
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We are looking for a keen adventurer to contribute a **REGULAR** one page article on adventure software; this would comprise reviews, tips, pokes etc. If you are interested please contact **JOHN PACKHAM**,
60 HIGHTOWN TOWERS, WARBURTON ROAD,
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FEATURE

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IF YOU'VE NEVER
HEARD OF THE
HEURISTIC APPROACH...
THEN READ ON!

PROBLEM SOLVING

By Stephen Gennard, DipHe

This article is dedicated to problem solving. I aim to demonstrate that there are many different methods of solving problems and that all of the methods are valid but some solutions are labour intensive, and should be dismissed.

First of all, for every problem there is at least one solution, the first solution you usually find is the "Brute strength approach". This approach is usually a progressive program that calculates every possible solution in order to find the correct one. This is very labour intensive and should be avoided.

The second method is the "Heuristic approach". This approach uses whatever information is known about the problem and thus cuts out many wasteful calculations in order to find the answer. Heuristic searches have been around for many years but often they are ignored because they are sometimes difficult to program. Although they do find the solution quickly they are not guaranteed to find the optimal solution.

Take the following problem, which I have called the "Knapsack" problem.

A burglar breaks into a house and has to choose which items to steal. Each item has a particular weight and value. He can't take everything because he can only carry a limited weight in his knapsack.

Problem 1:

If the knapsack can hold only 8 kg., find the maximum profit that the burglar can make if the following articles are available:

Article	Weight (kg)	Value £
A	1	1
B	2	5
C	7	18
D	6	12
E	4	10
F	4	8
G	3	7
H	6	11
I	2	5
J	5	10

Problem 2:

Write an efficient algorithm/program which solves the general problem for him.

Well the problem is not difficult, but the solutions can vary.

Answers:

1. The maximum profit possible is £20, this is obtained by taking articles B, E and

I know of three possible solutions to problem 2, these being given the following names:

- the brute strength approach
- the heuristic approach
- the dynamic programming approach

The first two methods above, I have already described but the third is the best approach. Before giving you the ideal answer, I think I should take the time to explain why the first two approaches have been dismissed.

The first approach takes all possible combinations of what can be placed in the bag and the associated value, then keeps a record of which combination is the best.

PROBLEM SOLVING continued

The second approach calculates the profit v kg (profit/kg) for each of the articles. Using this measure the articles can be ordered and the one with the highest ratio taken first, and then the one with the next highest (provided there is still room for it) and so on until either there are no more articles or there is no more space. The first major overhead of this solution is that the items need to be sorted. This is obviously not the most ideal method, but is a great improvement over the original solution.

The first two solutions are very machine intensive, the first using an amazing amount of time, the second needing a sort everytime but is still less intensive than the first. The best solution is the dynamic programming approach. This solution saves the results, as it goes along, so that they can be used in future solutions. For instance having found the profit for items {A,B} and {C,D} there is no need to find the solution for the profit of {A,B,C,D}.

The algorithm works by keeping an array (matrix) of the maximum profits for all intermediate solutions. The array takes the form: $best[i,j]$ where i is the object number and j is the constraint. The constraint being the weight.

Now we start by taking the first object and a weight constraint of 1, then we repeat this for the next two objects until the end of the objects, then increment the weight constraint.

Whenever a new object becomes available either we use it or we don't. If we do use it we get its value plus whatever is the best remaining weight (a figure which we have already calculated and be found by simply looking it up in the best table). If we don't use it we simply get the best that was obtained for this weight using the previous objects. To maximise our profit we take the best of these options.

The table below illustrates the calculations required in the example situation:

objects		j - weight							
v		1	2	3	4	5	6	7	8
A (1)-	1	1	1	1	1	1	1	1	1
B (2)-	2	1	5	6	6	6	6	6	6
C (7)-	3	1	5	6	6	6	6	18	19
D (6)-	4	1	5	6	6	6	12	18	19
E (4)-	5	1	5	6	10	11	15	18	19
D (4)-	6	1	5	6	10	11	15	18	19
F (3)-	7	1	5	7	10	12	15	18	19
G (6)-	8	1	5	7	10	12	15	18	19
H (2)-	9	1	5	7	10	12	15	18	20
I (5)-	10	1	5	7	10	12	15	18	20

Position
Weight

Values

The Pascal code for this is:

```

{ initialise best to zero }
for i:=0 to n do
  for j:=0 to c do
    best[i,j]:=0;

{ Enter weights into weight[j] }
{ loop over options and weights }
for i:=1 to n do
  for j:=1 to c do
    if weight[i] <= j
    then
      begin
        usethis := best[i-1,j-weight[i]]+
          value[i];
        if usethis > best[i,j]
        then
          best[i,j] := usethis
        else
          best[i,j] := best[i-1,j];
      end
    else
      best[i,j] := best[i-1,j];
  
```

I do hope I have not confused too many people with this article. If I have, please remember there are always different solutions to every problem and that your first solution might not be the best.

GAMES SOFTWARE

JUST FOR THIS ISSUE,
JOHN PACKHAM TAKES A BACK SEAT
WHILE TWO OF OUR MEMBERS, CARL SURRY
AND BRIAN WATSON REVIEW...

PIRATES AND MEAN STREETS

Once again this month, I've received another couple of games reviews, This time from Carl Surry and Brian Watson. Brian sent in quite a detailed review, but owing to lack of space, I have had to edit it. Sorry Brian! I had every intention of using the whole review, but it was just too long for one issue, and I didn't think readers would like to see a serialised review, so it has been cut down. Keep up the good work though Brian and Carl, and more reviews are certainly welcome from yourselves or anyone else, but do try to keep them to a maximum size of one side of an A4 sheet.

I'm also waiting to see anything about games on the following subjects... **HINTS & TIPS, MOANS & GROANS, GRIPES & HYPES, SOLUTIONS** (for Adventures), or anything else you feel is relevant to the games scene. Simply send your articles **DIRECT TO ME (JOHN PACKHAM)** (that way our poor ancient Executive Editor JS is given more time for holidays!). Try and send it on disc/tape in Protext or ASCII format. Your media will be returned promptly. Failing that, try to send a typed copy. I can still use hand-written articles, but some handwriting is difficult to decipher.

Anyhow, I'll now pass you over to Brian Watson.....

PIRATES 6128 only

The basic idea is that you are in charge of (at first) one ship in the 17th. century and your aim is to acquire fame, title, and fortune by trading, defeating enemy ships and conquering and plundering enemy towns. As a long time player of that classic space soap opera "Elite", I was at first struck by the similar options open for success but the more I have got into "Pirates" the less I have played "Elite"!

You are invited to either start a new career, load a previously saved game position, or command a famous expedition. You can also choose your nationality from English, French, Dutch or Spanish.

Then you are asked to enter your name and select your level of play difficulty: Apprentice, Journeyman, Adventurer or Swashbuckler. "Start simple" would be my tip to become familiar with the gameplay. You can buckle your swashes later.

Now it gets tricky. You can choose from 5 special abilities: Fencing, Navigation, Gunnery, Wit and charm or Medicine.

Once all this lot has been selected it will be saved each time you save the game, which can only be done if you are in port. Time passes during play and is occasionally flashed up on the screen so if you need a "natural break" hit the space bar to pause the game. You usually start in or near a harbour marked by a small group of buildings so it could be a good idea to sail in whereupon you are on the menus again! The local governor will tell you who his country is at war with. This can be interpreted as a hint as to who you should consider persecuting for reward from the old gentleman on a later visit to him or one of his countrymen. It is a very good idea to keep on the right side of at least one country as this will give you a better chance of selling your goods and any surplus ships you may "acquire" during your travels.

If you have sailed or marched in you will be able to pick up extra recruits at the local tavern. This is a good thing unless your crew is getting a bit eager (a "crew unhappy" message) for gold in which case some of the rogues will desert when you leave town. Also you can find out the status of other towns at the tavern as well as buying 'scraps of map from a consistently scruffy figure in the corner. There are at least 15 different maps but I'm still finding new ones!

In most towns you will be able to trade with a merchant who will generally repair or buy ships from you or buy your ill-gotten gains. Make sure you retain enough food for your next trip, it may be longer than you anticipate. You can check the "food to crew" ratio in sailing days by clicking across to the separate menu to "check the information" on the crew status.

For those of us who also like a bit of hacking and slaying let us assume you are at sea and a message "sail on the horizon" comes up on the screen are you going to sail away? No, you are going to investigate, aren't you? Now, it will soon be evident (from the next message) what sort of ship it is and what nationality it is. You're choice, matey, do you feel lucky? Let us suppose it is a Spanish vessel and you are an English privateer. If it is within the bounds of possibility that you might be able to defeat him, and you won't know for sure unless you try, choose the attack option and sail about until one side of your ship faces him then press the trigger to release a few pounds of shot. If you can manoeuvre so as to make your opponent point his bow (front) into the wind you can blast him while he goes backwards! Don't put up your full sails during a battle unless (a) you want them shot off (b) you are running away (c) your opponent is making a run for it. He, or you, will go through three stages of damage before the ammunition goes kerblamm, and if you can ram him early on and defeat him in a sword battle his ship and cargo are yours for the taking. You may also find some of his crew prepared to join you.

After a successful sea battle, I generally send a prize crew to take the ship into my fleet, even a ship with a leaking hull can carry plunder until I can decide whether to sell or repair it, unless I am getting low on troops in which case I plunder and sink it. The best priority for taking on plunder if you have limited space is food first if you need it, then cannon, then anything else according to local values.

A land battle is a very different kettle of cabbage. The map switches to a close-up view, as in a sea battle, and your little troops, most closely resembling enlarged commas, can be moved towards the fort. At this point troops from the fort sally forth on foot, or horseback, or even in ships to give you a hard time. You can move your men together or in smaller groups and some advantage is gained by moving your men to the cover given by woods. This will be shown by a little tree appearing near your morale display. Another good dodge is to leave one part of your men to take the punishment while sending a group large enough to take the fort round the long way. When you get there you may or may not have to fight a duel before taking the gold and goods and maybe installing a new governor representing a country of your choice. Remember, there is always the chance that if you leave town then almost immediately return this new man may well reward you handsomely for giving him the job!

To make the best of your achieved position sell all your goods and all but your cheapest, most broken down, ship at a wealthy port and set sail. Then fight the first ship you come across and allow yourself to be beaten in a sword fight with the captain. When offered the opportunity to retire, take it! You will find you will be further up the score chart than if you had just divided up the plunder and then quit. Of course, I suppose some people might load the file called "FAME" on the game save disc into a word processor and then fake it by typing in some ludicrous score like 162% but I assure you that's not how I did it!

If anyone finds themselves in need of assistance in the game give me a call one evening and if I can help, I will. BRIAN WATSON 0353-777006

And now to CARL SURRY'S review of

MEAN STREETS

The plot of this game is that John Stevens, a top C.I.A. agent, has been kidnapped by some drug barons, and only you can rescue him. You start the game at the point where the helicopter dropped you off. All you have for protection is a Magnum 357 plus 6 bullets, your fighting skills, and for some reason, a black panther. You and the panther must walk along the streets, and fight the street gang on each level.

On the first couple of levels, each gang member only needs one hit to kill them. A few extra bullets can be found lying on the pavements. At the end of each level is the gang leader, who looks just like the rest of them, so can be hard to pick out at times. Each leader takes quite a few hits before he too meets his maker. When you find John Stevens you must return back along the same streets with him (minus the panther). You must now protect him and yourself from attack, but there are no end of level gang leaders to worry about.

The main gripe I have of this game is the lack of instructions for firing the gun. I only found out by accident, and even then the gun can only be drawn when you are well out of punching range. Another gripe is the panther's total (or near total) lack of help. It seems to attack gang members only once or twice per game, and even then doesn't always make a kill. Maybe there is a way to get the panther to strike and again it's not in the instructions.

By far the best feature must be that your score is written into the high score table (disc version anyway) for all time. Now this is a feature badly needed in all games. The artwork is fantastic. There is also a picture of you and the panther shown between each level. Even the high score table has a great MOVING picture of the panther. I would give the game a score of 5.5 out of 10 just for the game play, but with the artwork and saving high scores added, I must give MEAN STREETS 7 out of 10. "MEAN STREETS" is by TITUS software.

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By the way

If you're moving from a CPC to a PC and want to upgrade Masterfile III to Masterfile PC - forget it. Campbell Systems will not supply an upgrade so it will cost you the full price of £70 for the standard edition of Masterfile PC or £100 for the full implementation.

-Don Snoad

Campbell Systems can be contacted on 0378-77762.

JACK NICKLAUS GOLF

A REVIEW BY TOM HOUGHTON

Having for so long endured the dubious pleasure of "WORLD CLASS LEADERBOARD" complete with the notorious 2-foot putt bug I was delighted to note the introduction of another much acclaimed golf simulation. This latest offering from ACCOLADE is indeed worthy of the recent "RAVE" review in one of the most popular Amstrad computer mags. Three separate courses are available, the first being a splendid compilation of Nicklaus's favourite holes from around the USA and Great Britain, and with each course comes the facility to "walk" the course, practise on driving range or putting green or even practise at any hole from the selected course! Control of Power, Swing, direction and club selection are all somewhat similar to "WCLB" but the "swingometer" is larger and seems to afford more precise control of shots. Each hole is displayed in "overhead" view prior to play on each hole, and this view can be recalled at any time during play on that hole. Graphics are of a very high standard and claimed to be 3-D though I preferred the clarity of detail in "WCLB", the more detailed 3-D holes in this effort being somewhat difficult to interpret at times! There is no sound to speak of; I would have thought that at this price the sound track of the "AMIGA" version of "WCLB" could have been emulated. After a few tries, a par round in the "beginner" mode should be achievable, but then comes the "EXPERT" mode where the effects of wind, hook, slice and all the other dreaded faults are made more difficult to overcome, and to achieve par in this mode will, I suspect, take a little more time though that is not to say you may get the occasional "birdie" when you do get things together! In a difficult position it seems impossible to play out say sideways if it is necessary, but it is possible to scroll the view sideways by touching the extremes of the screen with the direction pointer so getting a better view. All in all, a great program though at £16.95 a little on the expensive side, especially with the almost complete absence of sound, but the fact that two discs are necessary will indicate the degree of detail that is offered. Since buying the game at premium price I have seen discounted prices as low as £10.99 so it will certainly be worth shopping around if this type of action is your cup of tea!

Rating out of 10:

Graphics.....	9
Sound (non-existent almost)....	0
Playability.....	10
Value for money.....	9

YAHTZEE TYPE-IN CONTINUED FROM PAGE 11

In this, you can place a score regardless of the combination. It's simply a sum total of all 5 dice, and this line simply adds them all up, sets the corresponding flag to 1, and puts the score in the correct place.

LINE 6020...If they all happen to be the same (5*dice%(1)), and flag 14 is already set to 1 (a Yahtzee has been scored previously), then a bonus of 50 is added.

LINE 7005...You should know this, or be able to figure it out.

LINE 7010...This line checks for a High Straight (any 5 in a row) and since there are only 2 combinations, it's fairly straight forward. Remember the dice were sorted into order in SUBroutine 8000 in a previous issue. What you see on the screen could be something like 53241 or 63542, but the machine (internally) sorts them and checks for 12345 or 23456. If it finds it, then a score of 40 is placed in the appropriate box in line 7020.

LINE 10020...This line is the same as line 7010, because a High Straight can also be counted as a Low Straight (any 4 in a row). The only difference is, is that a score of 30 and NOT 40 is added in the appropriate box.

LINE 10040...What this line does is to compare two numbers in a\$. If they are identical then one of them is put into b\$ (set up in line 10030). If not, then another check is made with another number (Next a), so we end up with any identical numbers in b\$.

LINE 10060...a\$ is then checked to see if it includes 1234, 2345 or 3456, and if it is then a score of 30 is added. we have more of this sort of thing in the final instalment, so if anyone wants a fuller explanation, then write to me enclosing an SAE, and I'll try to help.

LINE 10070...Simply places the score in the correct place.

Well, that's it for now, like I said, if you want help with this or any other part, write to me enclosing an SAE. In the mean time, good luck with your typing!

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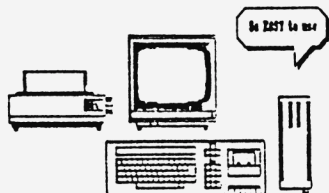
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THE BIG QUESTION

WHERE DO WE GO FROM HERE

With all the recent speculation around the threatened demise of the CPC series, it is interesting to note the current rumours. These now very strong rumours centre round the revamp of the CPC as we know it into a "games console". This move is no doubt an attempt to claw back some of the sales lost to the new Atari (sorry!) range. Amstrad are reported to have already commissioned some software houses to write programs (presumably games) for the imminent launch. However it is highly unlikely that the new software will be compatible with the current range if computer manufacturers' past performance is anything to go by!

If the rumours turn out to be fact will we, the current range users, suffer the fate of abandonment similar to our New Zealand members? In a recent letter to me, Alan Tozer of Christchurch, N. Z. writes of the adverse relationship between Sterling and the New Zealand/Australian currencies since the Common Market and the consequent falling trade between Britain and Australasia and continues:

"This factor has led to a marked trend for people upgrading their machines, to show a preference for IBM clones from Asia which has been further accelerated by Amstrad abandoning the CPC range in Australia where NZ orders used to be 'piggy-backed' to their orders. To say the least Amstrad are fighting a rearguard action in relation to the PC machines in Australasia".

Well what do you think?
Write to the Editor (on this or any other subject!)

Dear Editor...

YOUR LATEST LETTERS...

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

• INSTALLATION PROBLEMS

LIONEL SHEE of Taiwan has problems with CP/M and Protext:

Recently I was frustrated with my Pocket Protext because I couldn't do mail merging. On the advice of Don Snoad, I upgraded to CP/M Protext. I even bought the KDS 8-bit printer-port, Qualitas+, font library and CP/M utility. At present I am unable to use any of the fonts with CP/M Protext. In the Protext SETPRINT option 3 there are printer codes for turning primary [f] and secondary [g] fonts "on" and "off" but I don't know which codes to use. I have a Panasonic KX-P printer. May I request a review on how to use Qualitas+ with CP/M Protext or pass my queries to someone who can help me, also how to load extra fonts from drive [b].

Lionel's letter was passed to Richard Sergeant for help and his advice follows:

☐ To set up SETPRINT I have not used printer codes [f] and [g]; as far as I can tell, you can enter any legal code and use it for any function that is supported by your printer

I set up my file EPSON.PTR to use [q] to turn Qualitas ON or OFF and [r] for Qualitas double height.

[q] on 25 87 [q] off 29
[r] on 28 87 [r] off 29

My start of day disc contains the following files:

AMSDOS .BIN from system disc / to reset CP/M to Amsdos

C15CPM3.EMS similar to C10CPM3.EMS but I am now in my fifth mod. of the original file

CLARION.BIN My most used Qualitas font

DATE.COM for my convenience: to date/time stamp records

DCOPY.COM 3" disc copying utility

EDIT.HLP Protext help file

ELITE.BIN Another Qualitas font

EPSON.PTR Printer driver altered using SETPRINT.COM

EXFILE Protext command file

MAKECPC2 used only when first setting up start of day disc

PIAZZA.BIN Qualitas italics font

PROFILE.SUB which contains the lines:

date set

qbiosp

<elite

zapqual

Put your Protext start of day disc in drive [a], type [CPM]; it loads and prompts for the current date [MM/DD/YY] and time [HH:MM:SS]; the slashes and colons are important. Qualitas is then loaded with ELITE font (one font only can be loaded if this PROFILE.SUB is used). Then Protext is loaded automatically. When you "QUIT" Protext, Qualitas is removed by ZAPQUAL.COM.

PROTEXT.CFG configuration file/ altered by CONFIG.COM
PROTEXT.COM main program
QBIOSP.COM recommended Qualitas loader
QCODE.BIN Qualitas machine code/must be set up for your printer etc. when you originally initialise the Amsdos version of Qualitas+
SPELL.COM to use the spell checker
STARTUP this is like an internal Protext PROFILE.SUB file
SUBMIT.COM from your system disc: required to execute .SUB files
ZAPQUAL.COM removes Qualitas
ZAPQUALP.COM removes Qualitas/reloads Protext

If you have all these files on a disc in drive [a] all should be well...

To load extra fonts from drive [b]:

Step 1) whilst at the Protext command a> prompt type *ZAPQUALP (the * is very important); this will remove the font in current use

Step 2) at the next Protext command a> prompt type *QBIOSP

Step 3 QBIOSP (Qualitas) will load and ask for the name of the primary font; enter B:YORKOUTL (or whatever), all fonts are assumed to have the .BIN extension. When the program asks for the second font type B:MERCURY or any other valid font name or return if not required. NOTE: I can't use a second font if my text file is over 3k.

Step 4) Protext will then be automatically reloaded

I have had no trouble at all using Qualitas with Protext but, to be truthful, you won't find it as flexible as the AMSDOS version, (two fonts only are allowed); also if the font is loaded prior to creating a file it is very slow as the temporary files which Protext produces have to be constantly accessed.

I recommend you DO NOT load Qualitas until you have finished your document and spell-checked it; also remember to enter the printer code [q] at the start of your text file to switch Qualitas ON and the printer code [i] if the second font is to be switched ON or OFF.

RICHARD SERGEANT

[Thank you Richard for your help. I have published your answer as suggested; I am sure it will be of interest to other members. I really must try date-stamping one day! -Ed.]



THE EDITOR RESERVES THE RIGHT TO EDIT AND PUBLISH ANY LETTER RECEIVED UNLESS CLEARLY MARKED "NOT FOR PUBLICATION"

• MIXED-UP WORDS...

J. HARRIS of Tolworth sends useful advice for other members and suggestions for art package users:

■ No doubt this will be one of many replies to Stewart Elliot's letter in issue 19. There is an anagram program on PD 9/1 by M. Maddock, in which you can alter the words in the data statements when you have used the existing words in the program; listing the program will reveal the information on which lines to alter.

In answer to a previous enquiry from issue 13, regarding programs suitable for storage of family history, I have written to the member concerned with some suggestions. However, one of the programs I mentioned is called "Thoughtlink" which was available from Amstrad Action No. 28 as part of a suite of programs supplied on their cover cassette. This program I use for my own family history and also for a variety of other uses; the best way to sum it up is in AA's own words, "It will allow you to expand a central idea into several related sub-ideas, each of which can be further sub-divided - a thoroughly good program".

Now to my one request; I do not know if or how many members use "Stop Press + Extra" clip art (I am pleased with this, apart from the printer section) or the "Art Studio", but I for one can never seem to find enough clip art to choose from with some projects. I have drawn some of my own as I am sure other users have, so is it perhaps not worth considering a PD disc for this? I will look at the Mailbox page for the feedback on this, if any.

Lastly I would like to thank all the officers and contributors past and present through the Mailbox for all the sterling work that is done on our behalf. I, for one, eagerly await each issue, even though I may not read through it properly for a month. As the Editor of a small magazine for my local radio club, I know how difficult at times it can be to retain enthusiasm without contributions and feedback from other sources and members.

Take care the rambles don't bite!

□ *Thank you for the help for other members. With reference to the clip art files, we already have some on PD 13/2 but perhaps these are not to your liking. I must admit that I have not seen them. It might be a good idea for members to send their creations to me for publication. It would brighten up the magazine to have a few illustrations. So what about it members?*

On behalf of the other club officers, "Thanks for the thanks!" - Ed.

• MORE MIXED-UP WORDS!...

ALEC RIGBY of Rhondda has found another anagram program:

■ With reference to Stewart's Elliot's request in issue 19 regarding anagrams, I suggest he looks

at page 11, February 1988 of the CWTA.

Incidentally, I have never received copies of issues 9, 15, and 18 of the CPC User. I have been told that No. 9 was delivered to my old address but was chewed by the new occupant's dogs!

□ *Thanks for the anagram info. I'm sorry about the missing copies. I don't have anything to do with the actual distribution of the magazine so I have passed on your message, hopefully to put the omission right. I think the dogs showed remarkably good taste! -Ed.*

■ SOMETHING TO SAY?

Write to the Editor, 4 High Walk,
Fareham, Hants., PO15 6BS

• EVEN MORE MIXED-UP WORDS!...

This time from one of our regular correspondents, GEORGE DYKE of Bournemouth:

■ One or two points come up in issue 19.

1) Re the letter from Stewart Elliot about Anagrams. If he wants to make anagrams of his words there is one in "How to write word games" by W. Simister (UAUG book library - B1037P). It's a Bernard Babani book costing £2.95. If on the other hand he wishes to work out anagrams printed in books or papers, then Prosell is the one that I use, especially as I've expanded the dictionary from the 30,000+ as bought to over 52,000.

2) Re competitions; as for not entering the last competition I'm afraid writing a review of a piece of software is something I'm not able to do (I don't think I have ever finished a commercial game), yet I'm on the computer every day.

3) Still with John Packham; I'm sorry he feels neglected but I expect members are waiting until the end of the series, like me, to praise or kick him, but I find his way of explaining each line very interesting and hope he will do others in the same style. While on this subject, how about a machine code program done the same way? Come on you machine code buffs, if it's so easy!

4) Thanks to William Lawson for his help. I'm hoping I can get it to work. (Letters, issue 19).

Must stop now or you will be asking me to take over your job (no thank you!).

□ *I'm always glad to hear from you George and I think John Packham will be pleased to receive your encouragement. Although I too am not interested in games (I can't even understand what you are supposed to do with some of them!). I think John's series can give one a good grounding in the BASIC language. Phil Craven has a machine code type article in this issue which I hope you will find interesting.*

Take over the Editor's job? Yes please George! Ed.

continued >

• GAMES SOFTWARE REVIEWS...

CARL SURRY OF BARNET WRITES:

■ When I saw your competition to write a games review I was tempted to have a go but two things held me back. Firstly, I'm by no means a great wordsmith. I can't paint pictures with words as some people can. Secondly, I feel that to do a full and fair review of a game, you do need to have completed the game (preferably unpoked). As I'm not the world's greatest games player and have only ever finished about three games so far, I was reluctant to write a review. But now I have had my wrist slapped, so to speak, [I suppose you are referring to John Packham's article in issue 19 - Ed.], I enclose my review of "Mean Streets" by Titus.

I would like to thank you for the replacement magazine sent to me when I had a blank page 13 and also to Tony Baker who sent me some of the ACU and CWTA type-ins that I asked for. I found two that I was looking out for, so once again thank you Tony.

□ *I'm glad that you decided to have a go at a games review and as I am not qualified to judge your article, I sent it to John Packham for his expert opinion and you will be pleased to see that it is published elsewhere in this issue. Incidentally, all games material should be sent direct to John; his address is printed inside the front cover. - Ed.*

* AMSTRAD v THE OTHERS...

A vote of confidence for the CPCs
from R. HELCOPOOP of Tow Law:

■ This is the first time I have ever written to a magazine but I was prompted by the article in issue 19 page 6, "Viruses" by Stephen Gennard.

I have just started a damp-proofing company after months of home work and hundreds of phone calls and own a CPC 6128 and an Amiga A500 with Amstrad 2160DMP and Epsom FX-850 printers. However after a few letters to John Packham, I decided to use the Amstrad for my company work.

I have no knowledge of BASIC or any other computer language, in fact it shames me to say, I even have trouble spelling, as a lot of people I have to write to will confirm, hence the dictionary is never very far from the computer.

All my records are on the magic 3" disks. I have found that everything is a thousand times easier; I can keep backup disks and alter them to suit my needs.

On the Amiga, yes, I can do that too but in the last two weeks I had a utility disk sent to me by a friend that, I was told, would make life easier for me on the Amiga. After a few hours I had lost 8 weeks work on the working disks and the backups - some friend! So I will stick to the Amstrad for good, so thank you John Packham for all the help and advice.

The Amigas may well be better computers in their own right but who needs all the trouble and who gets the viruses?

I have noticed in the last few issues of the magazine that there seems to be a lot of unrest about the Amstrads being discontinued. There should be enough Amstrad users about to demand that we get full software support from some of the leading software houses. There seems to be a lot of advertising in the Amstrad magazines for other makes of computers. If I want another type of car I would look in another garage that dealt with the make I was interested in. The same goes for a computer, so why not promote only Amstrad add-ons or Amstrad dealers and their repair workshops. This is the sort of thing that sets us, the Amstrad users, apart from other computer users.

It's no small wonder that software houses are reluctant to supply more and more software to us. I have seen in the past so many people leaving the Amstrads behind for other makes of computer. I have not, and will not, give up my Amstrad.

I respect everybody's choice in their computers; the reason there are so many computers on the market is to fill everybody's needs, whatever they may want to do with it. Printers are another thing; we all have our basic Amstrads, the add-ons are our own choice. I bought my Amstrad 2160 printer but then I looked in another magazine for another printer. However if I need another computer I need not look any further than the U.A.U.G. bi-monthly magazine!

□ *How good it is to receive a letter in praise of the good old CPC. I say old because in computer terms, that's what it is. Like you, I am more than pleased with my CPC and bless the day I bought it, for the untold pleasure it has given me. It may not be as flashy as the Amiga but I certainly believe that the CPC is a very good all-round machine and holds its own in most applications. Like you, I have no plans to change and hope my 6128 will give me many more hours enjoyment. Keep your flashy Amigas!*

As far as your spelling is concerned, I've certainly received many worse examples! If you have not already got it, I suggest you invest in the Protext/Prospell package. For business letters, where incorrect spelling could give a poor impression, I think you would find Prospell an asset. It may slow things down a little but the result is well worth it.

Yes, I agree, it does seem strange to advertise Amigas in CPC magazines; trying to convert us I suppose. - Ed.

• RGB INTERFACING...

JOSEPH WILTON of Bognor Regis needs help with interfacing his TV:

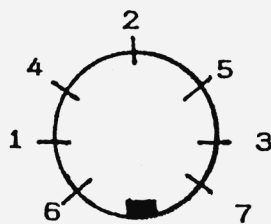
■ I have purchased an Hitachi CT1646 TV with a RGB socket and would like to know if I could connect this up to my CPC6128. In a back issue of the magazine I read that you made up a 12 volt supply

for disc drive and monitor and wondered whether you could make up an adaptor so that I can run my 6128 on the RGB Hitachi which has a 16" screen.

☐ I regret that I cannot help you as I no longer have a CPC and could not therefore run any tests.

I would imagine that you will need an RF modulator (plus 12v and 5v DC PSU for the CPC) as a minimum and suggest that you obtain a MP-2 module from Amstrad. - [Don Snoad]

[Can any member offer any further advice to Joseph. Some computers have a RGB output socket but not, unfortunately, the CPC. - Ed.]



- 1> Red in)
- 2> Green in) .75
- 3> Blue in) ohms
- 4> Sync in
- 5> Ground
- 6> Sound in
- 7> N/C

• AND EVEN MORE ANAGRAMS...

This time from DON SNOAD:

In response to Stewart Elliott's enquiry (CPC User, issue 19) about anagram software, he may like to know that THE WORD PLUS by Oasis Systems includes a facility for producing or solving anagrams. The program is primarily a spellchecker/corrector, but is made up of a number of modules some of which can be used independently of the spell program. ANAGRAM is one of the modules and can be used on its own. THE WORD PLUS is supplied with NEWWORD2 and with the CP/M edition of WORDSTAR v4; it can be obtained separately from Paperback Software.

• STAR-STRUCK MEMBERS...

KEN DRYDEN of March, Cambs. has been busy this month, Monitor, an advert and now a letter! Keep up the good work Ken:

I'm afraid I can't help Mr Trice with his particular problem (Mailbox, issue 19). However, I've just rekindled my interest in astronomy through the interest shown by my eight year old son and I thought Mr Trice may be interested (this is getting like Steve Davis - Interesting!) in a program I came across a few weeks ago.

"SOLAR SYSTEM" is a program included on the Christmas 1988 free tape by Amstrad Action. Once run, the program will give the RA and DEC (Mr Trice knows what it means) of all the planets for any given date and time.

☐ On the subject of the FREE Amstrad Action tapes; can anyone explain why the cover price of the magazine rose from £1.45 to £1.95 when the "free" cassette was included with the January issue? - Ed.



MORE LETTERS ON THE NEXT PAGE...

DISCOUNTS

The companies listed below offer discounts to members. Write direct to the company quoting your membership number, the items required, the advertised price, the discount offered and enclose cheque or postal order for that amount.

Binary Bits	10% off Games
223 Lonsdale Drive	12.5% off Business
Rainham, Gillingham	
Kent, ME8 9JW	Tel: [0634] 366982

Bourne Educational	10% off software
The Hundred	
Romsey	
Hants.	Tel: [0794] 523301

HSV Computer Services	10% off all
23 Hampstead House	products
Basingstoke	
Hants. R21 1LG	Tel: [0256] 463507

Micro-Prose Software	35% off software
Market Place	
Tetbury	
Glos. GL8 8DA	Tel: [0666] 54326

Siren Software	25% off software
84-86 Princess St.	Phone for hardware
Manchester	
M1 6NG	Tel: 016-228-18321

Incentive Software	15% off software
2 Minerva House	
Calleva Park	
Aldermaston, RG7 4QW	Tel: [05736] 77288

Please patronise these companies to make it mutually worthwhile.

SOFTWARE SALE

MAXAM (on disc)	£10.00
-----------------	--------

<i>The following are on tape:</i>	
BALL BREAKER	£1.30
PINBALL SIMULATOR	£1.30
KNIGHT TYME	£1.30
WORDHANG	£1.30
THRUST	£1.30
COMBAT VIEW	£1.30

R. P. RANDS
16a Horseley Heath, Tipton
West Midlands, DY4 7PA

FOR SALE DATAPHONE "DESIGNER" MODEM

Auto dial : auto baud
auto answer : BT approved
Very good condition
boxed with full instructions
P&P included **£60**

Phone Ken Dryden:
0354 54321 [Day]: 0354 56121 [Evening]

• NEW DISC DRIVES FOR OLD...

GORDON WOOLLISCROFT our Tape PD Librarian offers advice on another subject:

■ First some help for Neil Bikharayev with his failed disc drive and for others who may have the same problem. It is possible to obtain replacement disc drive units to enable units to be repaired either as a direct purchase or on an exchange basis for the CPC 664/CPC 6128 and the DD1/FD1 (CPC 464 unit and add on). The details are as follows:-

Available from:
C.P.C. 194-200 NORTH ROAD, PRESTON, LANCS. PR1 1YP,
Tel: 0772/555034. Telex: 677122. Fax: 0772/201905

Unit description: Disc Drive FD (EME-150A, EME-155/6)
Order Code: AM 190005
Cost to purchase outright: £66.00 plus V.A.T.
Cost for exchange: £52.80 plus V.A.T.
(You pay full amount and get refund when your unit is received by them.)

They do suggest that items returned to them should be sent via some form of Recorded Delivery Service.

Although I have not yet had need of their services they do also appear to have a wide range of replacement units for the "bigger" Amstrad machines and also the Amstrad printers and are very helpful over the phone.

By the time that this letter is published I will have already dropped Neil a line about the above, but from his previous letters it would appear that there are currency problems regarding payment for any items he wishes to purchase as well as possible difficulties in finding a repair man to fit the unit.

Secondly, some time ago I wanted a small label to put on a variety of equipment including my camera and also on each film that I send for processing. Whilst it is possible to buy specially printed labels, being an adopted Yorkshireman, I decided to try to print out my own on tractor feed labels using subscript size. I eventually ran to ground the following printer codes which allows subscript plus half line printing. I use these either with Protext (Amsdos) by inserting it in the Control Code section of "Setprint" or by writing a small program inserting these codes on the first line and the address etc. in subsequent lines.

The line is as follows:-

```
Print#8,chr$(27);chr$(51);chr$(15);chr$(15);
chr$(27);chr$(83);chr$(0)
```

I find that I can with a little care get at least 6 mini labels on one 4" x 1.5" fanfold label without crowding them.

GORDON WOOLLISCROFT
2 WRENBECK DRIVE
OTLEY, WEST YORKS
LS21 2BR ENGLAND

□ Thanks Gordon for the disc info; a much better bet than buying a complete new drive, Amstrad's answer! DIY fitting of the DD1/FD1 is simply a matter of removing 4 small screws from the sides and

2 long ones underneath the casing and unplugging two leads and one earth from the old drive unit and refitting the new. The unit is held in place by the casing screws. I imagine the in-built drive is a similar procedure. - Ed.

• SUPERCALC DATE PROBLEM...

A tale of woe from our regular contributor RICHARD SERGEANT of Hythe:

■ The question I pose is for all our SuperCalc2 users. Has anything happened to your DATTIM.COM file?

Now, what is DATTIM.COM? It is a SC2 utility similar to CP/M+ DATE.COM. If it is used it sets up SC2 to recognise today's date and will print it out or perform calculations on the date if the correct formula is entered in a current spreadsheet cell (see section 8-14 to 8-17 of the manual).

So what is my problem? I have used it for 18 months without any trouble but since 1st December 1989 it fails to acknowledge my input correctly.

Prior to running SC2 type DATTIM at the a) prompt and it responds with: 'Enter the date as (MM/DD/YY)', e.g. 02/15/90 and press (enter) the program then asks 'Enter the time as (HH:MM)': now you type for example 12:00 and press (enter) The next response should be: 'Today is Thursday Feb 15 1990 at 12:00'. My copy for some reason replies with: 'Today is -||.C@BBB [or something similar - Ed.] Feb 15 1990 at 12:00', the name of the day has become corrupt.

If anyone can solve this mystery I would be grateful. By the way, apart from the 'day' corruption, the program seems to work fine.

□ I passed your problem to Don Snoad, Richard and he replied as follows:

Re Richard's problem with his Supercalc2. Nothing untoward has happened to his DATTIM.COM program file: the file will work perfectly well within its designed parameters, the problem is that it will only accept a date entry between Jan. 1, 1977 and Dec. 1, 1989. - it will not accept any date outside that range. If a date is entered which is outside the acceptable range, an error occurs which shows on screen in the manner described by Richard. I've tried to alter the DATTIM.COM file to extend the date range but have not so far succeeded. The alternative is to ignore the DATTIM.COM file and go straight into SC2 then at the Data Entry Cursor enter "DATE 01/25/90 or whatever date you like (don't forget the " preceding the word DATE). This will enter the date into Column A Row 1 of the spreadsheet; this entry can then be used as a statement or for calculation purposes. - Don Snoad.

• MUSIC AND PROBLEMS...

From PETER MEAD of Edinburgh, praise for the AMS... and a BASIC problem:

■ I write about the Advanced Music System (AMS) which was reviewed by Stephen Fisk in the April

1989 issue. The hope was then expressed that this would generate some interest and correspondence on computer music, but I have not seen any letters or further articles. As one with little previous knowledge of music theory or practice, I find the AMS excellent now that I am familiar with it. Rob Baxter, whose address was given in the article, has been very helpful with advice and information and with his own transcriptions and compositions on disc. I hope that other UAUG members will decide to explore this fascinating application of computing.

Also may I share a rather unusual experience with a particular BASIC program. It started out as a fairly simple text editor, which I have by stages improved to almost the status of a word processor in 24K of BASIC, with some machine code as well.

Without too much detail, I find after recent changes that when the printing routine is called after using the editor, one or more lines of BASIC are corrupted. This may produce error messages and a listing usually shows statements missing. Any modification to the program merely alters the affected line or the form of the corruption. One particular form I can now live with, because in this exceptional case, although a listing shows corruption, the line runs perfectly (this would be expected because PEEKing the tokenised line in memory shows it to be still correct). In this special case, therefore, but not always, it is just the listing playing up. To illustrate this, I show below the lines as listed, before and after corruption (admittedly this shows rather poor programming technique, but this is due to not wanting to renumber the program):

```
2301 PRINT#8,CHR$(27);CHR$(65);CHR$(12);:ls%-0:
      optfl%-0:ufl%-0:emfl%-0:superfl%-0:subfl%-0:
      confl%-0:dsfl%-0:n%-6:c%-75:w%-8:gosub 3180:
      LOCATE 10,4:PRINT"Total lines - ";rowfin%
```

```
2301 PRINT#8,CHR$(27);CHR$(65);CHR$(12);:ls%-0:
      optfl%-0:ufl%-0:emfl%-0:superfl%-0:subfl%-0:
      confl%-0:dsfl%-0:n%-6:c%-75:w%-8:
```

Has anyone had any broadly similar experience with a program in Loco BASIC? Incidentally, and this may be a clue, it only occurs on the 464 and not on the 6128, so there may be a bug in the 464's firmware, which was corrected in the 6128.

☐ Well, Peter, I think you are probably right about the 464 bug; there were a few which were later corrected, but maybe someone can come up with another reason. Glad to hear you are having fun with AMS; wow! that article was a long time ago! - Ed.

• RAMDOS/RAMDOS HELP NEEDED...

JOHN MERES a new member has upgraded his 6128:

☒ I have added a 3.5" drive to my 6128 and obtained the RAMDOS/ROMDOS software package from KDS. Have these products been reviewed in previous editions of the magazine? I would like to obtain clarification for a first-time user. The information supplied in the manual does not seem to approach the task of commencing in a step-by-step explanation. It may

well be clear to experienced users but I find it difficult to comprehend. Has the group any additional instructions available?

☐ I can find no previously published articles to help you but perhaps another member would offer some advice or perhaps write an article on the subject for us! If you are unable to understand the instructions provided, maybe you are trying to run before you can walk! - Ed

• DISC COMPATIBILITY...

A query from ERIC JOHNSON of Moreton, Wirral:

☒ Please advise which PD program will allow me to read PCW9512 Loco or ASCII files on a CPC6128, a sort of reverse "8000COPY" or is information available on the two formatting styles?

☐ Reading PCW9512 discs on a CPC6128. Sorry this is not possible without extra hardware and software. The reason is that the PCW9512 uses discs of 80-track double-sided double-density format with a capacity of 720k whereas the CPC6128 uses discs of 40-track single-sided double-density with a capacity of 169k. To read PCW9512 discs on a CPC6128 you would need a 2nd disc drive equivalent to that fitted to the 9512, plus software that would enable the 6128 to log-on and read the 80-track double-sided 2nd drive. So far as I know there is no program marketed that specifically does this; however I know of two programs that MAY achieve this. These are: CAMELION developed by Dalek Software and marketed by Timatic Systems at about £40 and RESCUE KIT developed by Alan Giles and marketed by Three Inch Software at about £10. Timatic's address is 7 Palmerston Business Centre, Newgate Lane, Fareham, PO14 1DJ and Three Inch Software is at 73 Surbiton Road, Kingston upon Thames Surrey, KT1 2HG.

File transfers between different formats are invariably more difficult than they may at first seem. The hardware limitations of the 6128 will inhibit any attempt to access a widely different format; this is especially true when major differences exist between disc parameters and/or the number of read/write heads needed in the drive. I gave an overview of this subject in my article "Disc Operating Compatibility" published in CPC User issue 8; the article included a summary of "Camelion". - Don Snoad.

[Copies of Issue 8 are available from the secretary, Paul Owen. - Ed.]

BACK ISSUES

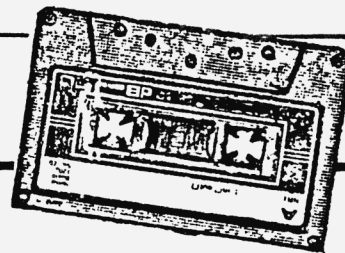
BACK NUMBERS of the following issues are still available:

Nos. 6; 7; 8; 10; 12; 13; 14; 15; 16; 17; 18; 19

Please apply to the Secretary
(address inside front cover)

TAPE SOFTWARE

Cassette Users' PD LIBRARY



LIBRARIAN'S REPORT

Since my last report there has been an increase in the number of requests for the Tape Library Set and at present I have a waiting list of people wishing to borrow them. Please do not despair if you have requested the Tapes and not received them or had a reply from me. I do have all requests in order of receipt and will deal with them as soon as possible so you will get them eventually. In order to keep down costs I am at present not sending out any letters if there are delays.

I am however looking into the possibility of copying the current set and therefore have more than one set in circulation, which will keep down the waiting time.

In the coming months when time allows I do hope to send out a questionnaire 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.

I must at this stage thank Lee Harland of Durham for the programs he sent me for the PD Library which are in the process of being integrated into the Library.



PLEASE NOTE...

PLEASE SEE PAGES 30 AND
INSIDE BACK COVER FOR
FULL DETAILS OF DISC-BASED
PD SOFTWARE...

TAPE ONE

25-SQUARE	Rubik Cube game	BIOCHART	Biorhythm Generator
BLACKJACK	Blackjack Card Game	F4SQUARE	Puzzle Game
FLAG-1	Draws Australian Flag	HOROSCOPE	Horoscope Generator
JACKPOT	Simple Fruit Machine	KEYS	Redefine Keyboard to give keyword command entry
LIFE -	10 Life Game	AMSDIR	Tape Catalogue
MERCHANT	Space Trading Game	INPUT 1	General Input Sub - Routines
ICON2	ASCII/Prestel converter	PAPERMAN	Management Simulation Exercise
LABELS	Label Printer	POLAR	Plots Polar Equatns
MORTGAGE	Calc. Mortgage Payments	RAFFLES	Maze Game
PENNYTEN	Ping Pong Game	SPORTMAN	Sport Manag. Game
PJBOMBER	Bomber Game	TODAY	Calcs Day/Dates & Easter Dates
QUEST	Text Adventure	VUMPUS	Text Adventure
SPELLING	Spelling Game	ROLL	Binary & Basic versions of Scroll RSX
SURFACES	Graphic Demo.	RSX-DOC	ASCII File Instruc. for RSX programs
TYPTUTOR	Typing Tutor	BBLI	List of Bulletin Bds
USEOFMIN	Graphic Demo.	FONTY	Font Designer
BLUERAIDER	2 Part text adventure	CAT-U82A	sends CAT to printer
ROLL.DEM	Demo for Roll RSX	DIARY	Diary program
FCAT	Bin. & Basic Versions of dir to ASCII file RSX	DECODE	
ROMREAD	Saves ROM as a Binary File	ELECTBIL	Calcs electric bills
BBDOS	List of Bulletin Boards	GRA-MEN	Graphically displays memory usage
AMSFAX	Teletext Simulator	LASBALL	Breakout with a difference.
PORTFOL	Record shareholdings	CAT8	Redirects CAT to Printer.
ENCODE	Encrypt messages	CALLENPT	Calendar Printer
POINTERS	Prints useful characters		
CHIMES	simulates chiming clock		
SIDEWAYS	prints ASCII file sideways (NB max. 60 lines)		
CHRDESIG	Character designer		
HELPWINDO	Window Designer		
ODEPRINT	Rhyming Couplet Generator		
BANKER	Bank Account program		
CARNUN	Find out the town your car was registered in.		
DIGICLOC	Digital Clock with Alarm displayed on screen.		
HOMEACTT	Easy to use home accounts program.		
TVSAT	Gives TV satellite positions.		

TAPE TWO

STD) DIALING CODES - VERY COMPREHENSIVE CODES IN NUMERICAL ORDER
STD)

TAPE THREE

COMPREHENSIVE INDEX OF AMSTRAD MAGAZINES IN ASCII FORMAT

INSTRUCTIONS FOR TAPE USERS WISHING TO BORROW THE TAPES

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 so we have decided to adopt a different system for the tape users 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 three 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)

Write to:
GORDON WOOLLISCROFT, 2 WRENBECK DRIVE, OTLEY, WEST YORKSHIRE, LS21 2BR

BOOK LIBRARY

CURRENT FEE:- £1.25 or £1.50 per book per month [see note below]

If you require any of the books below, please fill in a Book Request Form and send it together with £1.25 or £1.50 [cheque or postal order only please] to the UAUG Librarian, 29 Hill Park Road, Gosport, Hants., PO12 3EB. The £1.25/£1.50 fee is to cover the running costs of the library and postage. If the book you require is already on loan it will be reserved for you. Once the book is returned (usually no longer than a month) it will be sent direct to you. Please return books promptly, as this will avoid disappointment for other members.

No.	Book Title
B1001P	The Colour Coded Guide to Micro-Computers
B1002P	Computer Programing In Basic
B1005P	Writing Adventure Games On The Amstrad
B1006P	60 Programs For The Amstrad 464
B1008P	Machine Code For Beginners
B1009P	Using Your Amstrad 464-Made Easy
B1010P	Computer Challenges For The Amstrad
B1011P	Advanced Amstrad Basic
B1012P	Introducing Amstrad CP/M Assembly Language (3 copies)
B1013P	Subroutines For The Amstrad 464 & 664
B1014P	Sensational Games For The 464
B1015P	Applications For The 464 & 664
B1016P	The Working Amstrad (2 copies)
B1017P	Filing Systems & databases For The Amstrad CPC 464
B1018P	Amstrad Advanced Users Guide
B1019P	Using Dr. Logo On The Amstrad
B1020P	The Amstrad Pentacle Adventure Creator
B1021P	Write Your Own Adventure Games For Your Micro-Computer
B1022P	Understanding Computer Graphics
B1023P	Amstrad CPC 664 Computing
B1024P	Introducing Logo
B1025P	Mysterious Adventures for your Amstrad
B1026P	The Amazing Amstrad Omnibus \$\$
B1027P	The CP/M Bus \$\$
B1028P	Master Machine Code on your Amstrad 464, & 664
B1029P	Assembly Language Programming for the Amstrad 464, 664 & 6128
B1030P	100 Programs for the Amstrad 464, 664 & 6128
B1031P	The Amstrad Disc Companion for the Amstrad 464, 664 & 6128 (2)
B1032P	Amstrad Machine Language for the Absolute Beginner (2)
B1033P	Amstrad CPC Whole Memory Guide
B1034P	Illustrating Basic (basic tutor)

No.	Title
B1035P	Simple Applications of the Amstrad CPCs for the Writer
B1036P	An Introduction to Programming for the Amstrad 464
B1037P	How to write Word Games on the Amstrad 464, 664, & 6128
B1038P	Using your Amstrad CPC Disc Drives
B1039P	The Amstrad 464, 664 & 6128
B1040P	Amstrad CPC 464 User Instructions
B1041P	Amstrad Graphics-Advanced User Guide
B1042P	The Amstrad CPC 464 Disc System including CP/M & Printers
B1043P	Basic Programming on Amstad 464,664, & 6128
B1044P	The Punters Revenge (Gambling & Computers)
B1045P	The Amstrad CPC 464-Advanced Users Guide
B1046P	Amstrad Computing with the CPC 464
B1047P	Graphic Programing Techniques on the Amstrad 464
B1048P	The Amstrads Programmer's Guide
B1049P	The Amstrad Games Book
B1050P	Easy Add-on projects for the Amstrad 464, 664, 6128
B1051P	A Z80 Workshop Manual
B1052P	Computer Engineers Pocket Book
B1053P	Your First Amstrad Program \$\$
B1054P	Mastering Machine Code on your Amstrad 464/664/6128 (2 copies)

NEW BOOKS

B1055P	The Ins & Outs of the Amstrad
B1056P	The Anatomy of the CPC's \$\$
B1057P	Advanced Programming Techniques on the 464
B1058P	Programming in "C" on the Amstrad \$\$
B1059P	Computer Programming in Pascal

As book No. B1029P has not been returned to the library by the borrower, it is not now available for hire.

IMPORTANT NOTICE. It is with regret that the cost of hiring a book must go up to £1.25. this is due entirely to the cost of post and packing, but remember it is still better to hire a book to see if you want it before you buy it (if it is still in print). Also some of our "tomes" are larger than normal and will require a fee of £1.50 to cover the extra postage charge. These books are marked \$\$.

PD SOFTWARE

PUBLIC DOMAIN LIBRARY

UPDATE
UPDATE

By Wg. Cdr. DAVE CUTTS

The latest PD disc (PD 15/3 - right) is a miscellany of BASIC programs, mostly for younger members (some are a little more advanced) - thanks to Lee Harland and Horace Minouge. Very welcome and I am assured that all are PD! I must emphasize that we cannot be held responsible for publishing non-PD material.

I am now publishing a brief summary of each PD disc side and urge you to order firstly the comprehensive LIBINDEX which occupies one side of a disc. (let me know your chief interest, I will endeavour to place a suitable PD disc on the other side).

This Library disc contains ASCII files which may be read using most word-processors and some improved BASIC programs for displaying the Library with a limited search facility. So there is something for everyone!

HOW TO ORDER:

1. EACH of the sections above will fit on ONE side of a disc so send enough discs!
2. Use a good padded envelope; enclose sufficient postage stamps and a self-addressed gummed label.
3. If you don't wish to supply discs, then send a £3.50 cheque or PO (Overseas readers: STERLING drafts ONLY for £4.50 please) made payable to the United Amstrad User Group. This will cover the cost of the disc, p&p, and TWO sections of the library.
4. Some of the documentation files have been compressed to save disc space. This is indicated by a "Q" as the second letter of the filetype, eg READ-ME.DQC would be a SQUEEZED version of READ-ME.DOC. These can easily be converted into normal ASCII with either UNSQUEEZE or NSWP on PD1/1 (easier still use the 'p' option in NSWP to print an unsqueezed version) so you should order this section of the library first.

SEND REQUESTS TO:

Wg.Cdr. D.J.Cutts. MBE. RAF. (Ret'd),
UAUG PD Librarian,
Millstone, Church Road,
Greenstead Green, Halstead,
Essex CO9 1QP.

PD 15/3. *** AMSDOS *** Mostly for younger members
Remarks are by the authors.

15301	ADDSPEED	BAS	GA	2K	Arithmetic game
15302	BOUNCING	BAS		1K	Graphics
15303	BUG	BAS		2K	" "
15304	CALCULAT	BAS	MA	3K	A variety of physics calculations
15305	CHRSET	BAS		10K	# = 0-9. Ten char.sets.
15306	COLORDEN	BAS	GA	1K	Graphics demo.
15307	CORRELAT	BAS	MA	4K	Calcs.Spearman's Co-ef.Used for stats.
15308	DAMBUST	BAS	GA	4K	Game similar to Breakout
15309	DBASE5	BAS	DB	10K	No way holds 500 recs. but useful as stands
15310	DISCOLTS	BAS	NV	3K	Quite useful in dark listening to music!
15311	DISPLAY	BAS		1K	Graphics
15312	EGGS	BAS	GA	3K	Child's cute counting game.
15313	HIGHLOW	BAS	GA	4K	Card game
15314	KRAZY	BAS	GA	5K	Racing car game
15315	MBROT	BAS		1K	Graphics
15316	PATTERNS	BAS	GA	2K	Graphics (Space to change)
15317	PERSIAN	BAS		1K	Graphics
15318	PICMAST	BAS		4K	Little drawing program
15319	PICNIC	BAS	GA	6K	Childrens' game.
15320	QUIKKEYS	BAS	UT	1K	CTRL + letter for a keyword.
15321	QUIZZER	BAS	QZ	4K	Not good but kept author's sister amused!
15322	ROBOTANK	BAS	GA	10K	Game
15323	SDEVIA	BAS	MA	2K	Statistics program
15324	SIMON	BAS	GA	3K	Computer vers.of pop.game. Use cursor keys
15325	STARHUNT	BAS	GA	4K	Early game attempt by author.
15326	TABSPED	BAS	GA	2K	Arithmetic game
15327	TAKESPED	BAS	GA	2K	..ditto...
15328	TAX	BAS	DM	2K	Calculates income tax?
15329	TRICIRC	BAS		1K	Graphics
15330	TRIG	BAS		1K	..ditto...
15331	TUNE	BAS	NV	1K	A silly little tune program.
15332	WINDOW7	BAS		1K	Graphics.

As I have been asked about a quick database program it might be an idea to recommend the one on PD 7/1. Suggested by an idea in CWTA using direct storage of data on disc, I spent considerable time developing the system which gives fast, virtual random access. Needing two disc drives it allows up to 48 sub-records (or fields) provided the total no. of bytes does not exceed that indicated by the program e.g. one may have total record length of 255 and be allowed 720 records or even a total record length of 22 bytes and over 8200 records! I would have amalgamated the various programs but as the system needs careful handling I have left a situation which requires separate use of files for WRITE/READ/ERASE/SEARCH etc. Try it and I think you will realise its potential.

Due to lack of interest, the pick'n'mix option has been discontinued.

Happy Computing

PLEASE SEE NEXT PAGE FOR THE
COMPLETE PD LIBRARY SUMMARY

LIBRARY INDEX ▢

Because the PD library index is too large to publish in detail, it has been decided to print the synopsis below as a guide to the contents of each disc.

For details of how to order your PD software, please see previous page. You are advised to obtain the LIBINDEX first

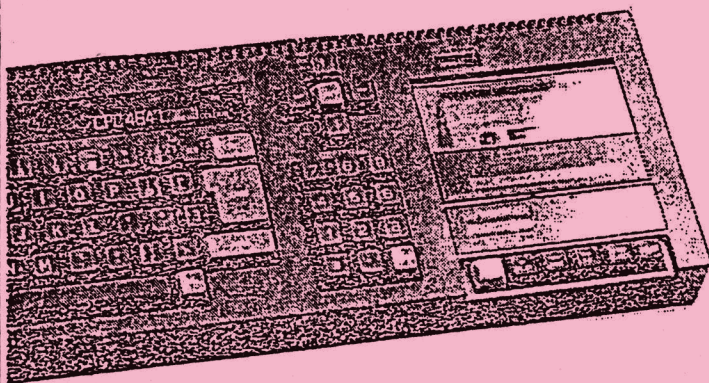
* denotes recommended item

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|---|--|
| <p>PD 1/1 [CP/M] utilities etc including DU, FIND, *NSVP*, SQUEZE, UNSQUEEZE etc.</p> <p>PD 1/2 [CP/M] Compiler with 32Kb of documentation.</p> <p>PD 1/3 [CP/M] ZMAC assembler.</p> <p>PD 1/4 [CP/M] Z80 monitor and assembler.</p> <p>PD 1/5 [CP/M] SECRETARY Word processor etc.</p> <p>PD 2/1 [CP/M] Prestel link and Smart Modem utility</p> <p>PD 2/2 [CP/M] Modem utilities</p> <p>PD 2/3 [CP/M] Adventure games, Calendar Blorhythm etc.</p> <p>PD 2/4 [CP/M] Games - Chess, Golf, Othello, Stones, Othello etc.</p> <p>PD 2/5 [AMSDOS] Games etc.- Snooker, Blackjack, Horoscope etc..</p> <p>PD 3/1 [AMSDOS] Games, utilities etc.</p> <p>PD 3/2 [AMSDOS] Comprehensive index for AMSMAGS. Masterfile format.</p> <p>PD 3/3 [AMSDOS] Like PD 3/2 but ASCII format</p> <p>PD 3/4 [AMSDOS] 2-part Adventure game. BLUE RAIDER</p> <p>PD 3/5 [AMSDOS] Font designer, utilities, disc menu etc.</p> <p>PD 4/1 [CP/M] FORTH compiler. Editor. File Manager etc.</p> <p>PD 4/2 [AMSDOS] Telephone exchanges in alphabetical order also see *PD 8/4 (improved version)</p> <p>PD 4/3 [ASCII] As PD 4/2 above but ASCII</p> <p>PD 4/4 [CP/M] Dazzlestar full featured disassembler.Needs 2 drives.</p> <p>PD 4/5 [CP/M] File compressor/decompressor. To SORT it needs PCSORT.COM. Anyone help?</p> <p>PD 5/1 [CP/M] Mail and Data merges. Worth exploring. With 60K documentation.</p> <p>PD 5/2 [CP/M] Database originally for food trade but flexible. Text editor + spell checker for editable dictionary.</p> <p>PD 5/3 [CP/M] Standard MBASIC et al.</p> <p>PD 5/4 [CP/M] Pascal compiler with loads of documentation etc.</p> <p>PD 5/5 [CP/M] Small business accounts program. Must have DBASE II + CREATOR database which needs MBASIC (PD 5/3 et al).</p> <p>PD 6/1 [AMSDOS] Miscellany of mostly BAS programs.</p> <p>PD 6/2 [AMSDOS] UNIX SHELL (Centrox) Latest latest version (Jun 1989)</p> <p>PD 6/3 [AMSDOS] Comprehensive & Latest version Jun 1989 for PD6/2.</p> <p>PD 7/1 [AMSDOS] Random Database and Election forecasting.</p> <p>PD 7/2 [AMSDOS] Miscellany of BASIC files and utilities etc.</p> | <p>PD 7/3 [AMSDOS] PASCAL programs and demos.</p> <p>PD 7/4 [CP/M] Update of Library utility. Lots of documentation.</p> <p>PD 7/5 [CP/M-MBASIC] All programs except KPFLY need MBASIC which is on this disc. NO documentation.</p> <p>PD 8/1 [AMSDOS] Tourist guide of Wales. & others.</p> <p>PD 8/2 [AMSDOS] Most files need UTOPIA. Others are BASIC utilities.</p> <p>PD 8/3 [AMSDOS] Graphical adventure.</p> <p>PD 8/4 [AMSDOS] STD codes in numerical order. Filename=1st 2 figs of exchange.</p> <p>PD 8/5 [AMSDOS] BASIC utilities incl. calendar printer etc.</p> <p>PD 9/1 [AMSDOS] Mostly word games. Some utilities.</p> <p>PD 9/2 [AMSDOS] Miscellany of games and utilities/novelties.</p> <p>PD 9/3 [AMSDOS] Assorted and varied BASIC programs.</p> <p>PD 9/4 [AMSDOS] A Mandelblot Generator</p> <p>PD 10/1 [CP/M] FORTH 83</p> <p>PD 10/2 [CP/M] FORTH 83</p> <p>PD 10/3 [CP/M] Small C subset compiler. Lots of documentation.</p> <p>PD 11/1 [CP/M] Assorted utilities etc.</p> <p>PD 11/2 [CP/M] Assorted utilities etc. and Star Trek game.</p> <p>PD 11/3 [CP/M] *80TRK.DOC details how format DS DD drive as drive B & needs other PD discs. }</p> <p>PD 11/4 [CP/M] ISLAND, Adventure game.</p> <p>PD 12/1 [AMSDOS] Assorted BASIC utilities etc.,</p> <p>PD 12/2 [CP/M] Disc editor and library etc.</p> <p>PD 12/3 [AMSDOS] Assorted BASIC utilities etc.</p> <p>PD 12/4 [AMSDOS] A teaching aid (needs printer)</p> <p>PD 12/5 [CP/M] Small-C compiler. Assembler ZMAC on PD 1/3 but PD 10/3 is almost identical to this disc & with ZMAC, ZLINK</p> <p>PD 13/1 [CP/M] Limited demos etc. of ZBASIC. Some CPC some PCV</p> <p>PD 13/2 [AMSDOS] Most files are for ADV.ART STUDIO but some may be executed from Basic.</p> <p>PD 13/3 [AMSDOS] Is related to parts of PD 13/4. For Maths buffs?</p> <p>PD 14/1 [AMSDOS] Mandelblot. Really needs PD 13/3 to be of any use.</p> <p>PD 14/2 [AMSDOS] Special password protection programs et al.</p> <p>PD 14/3 [CP/M] SUNix disc utilities similar to some of RODOS et al. likely to be regularly amended! N.B. All files squeezed</p> <p>PD 14/4 [CP/M] Communications.</p> <p>PD 14/5 [CP/M] All files need MBASIC (See PD 5/3 & 7/5)</p> <p>PD 15/1 [AMSDOS] Telephone codes. Very similar to PD 8/4. Enter code to determine Exchange name.</p> <p>PD 15/2 [AMSDOS] Databases mostly for 'music lovers'.</p> |
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CPC

USER

THE BI-MONTHLY MAGAZINE
OF THE
UNITED AMSTRAD USER GROUP



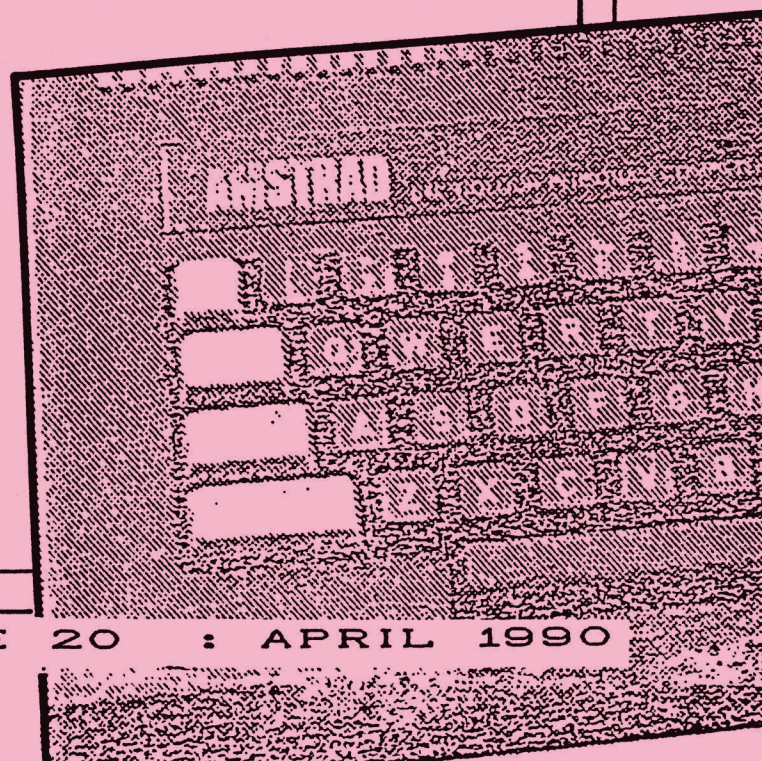
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