

10  
The Aussie Mag  
for Amstrad owners

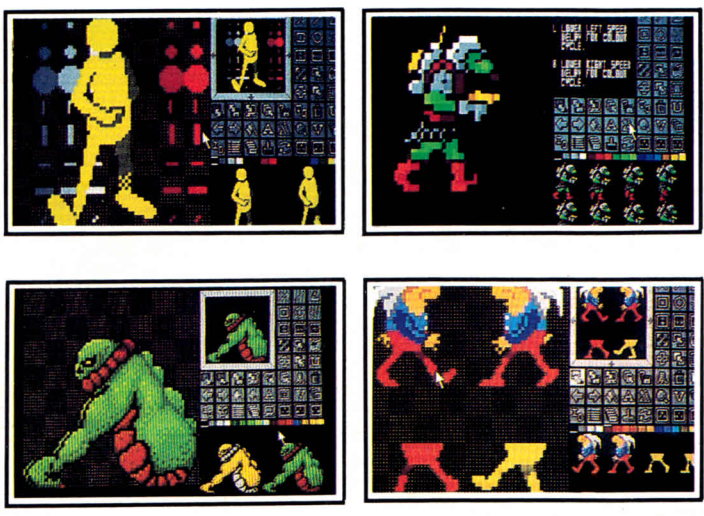
# THE AMSTRAD USER

Issue No. 32 \$3.75

September 1987

How can you think of Xmas at this time of year?  
Easy!  
See pages 62 and 63

## THE ADVANCED OCP ART STUDIO FROM RAINBIRD



- *CPC Reviews - Advanced OCP Art Studio, Random Access Database + a CP/M file recovery program*
- *PCW Reviews - Fleet Street Editor Plus, TempDisc templates + a LocoScript Indexer type-in*
- *Accounting Tutorial and News of new machines*

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# THE AMSTRAD USER

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For Tape Subscribers, CPC programs appearing in this month's magazine can be found at the following approximate positions:

<b>Side 1:</b>	HANOI-A	- 10	HANOI-B	- 45	CIRC1	- 67
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All enquiries and contacts concerning this Publication should be made in the first instance by writing to The Amstrad User, Suite 1, 245 Springvale Road, Glen Waverley, Victoria 3150, Australia. Urgent matters can be phoned through on (03) 233 9661.

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The subscription rate (for Australia) is \$37.50 for 12 issues of the magazine only, or \$80.00 for 12 issues of the magazine plus tape (for CPC range only) containing programs appearing in that issue. Postage is included in the above prices. For subscriptions to New Zealand, PNG, Solomon Islands or Vanuatu please add \$21 airmail. Other overseas prices available upon application. Please note that whilst every effort is made to ensure the accuracy of all features and listings herein, we cannot accept any liability whatsoever for any mistakes or misprints. Contributions are welcome from readers or other interested parties. In

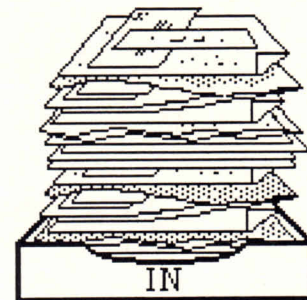
most circumstances the following payments will apply to published material: Letters \$5.00, Cartoon \$5.00 and a rate of \$10.00 per page for programs, articles etc.

Contributions will not be returned unless specifically requested coupled with a suitable stamped and return addressed padded bag (for tapes or discs).

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# Letters



When is a word not a word? - When it is being counted by a computer "word-count" program, by the look of it.

I recently took an article I had just put together on my PCW8512, and ran it through five different word-counters .... yes, you guessed it, I got five different answers, and the differences do NOT all seem to be accounted for by different definitions of "word".

LocoScript has a host of excellent features, (one of which is certainly not the speed with which it moves through files) but it was on the market for over twelve months before they got around to producing the spelling checker, LocoSpell. Because LocoScript comes with its own operating system, (a hidden file on your Start-of-day disc, called JoyxxxLoco.EMS) it has been necessary for results to be made into ASCII files before other programs can do anything with them, and a proprietary spelling checker from Computer One, called (and I kid you not), SPELLING CHECKER, has been a pretty useful stopgap in the meantime.

Because I am one of those odd characters who has always been, as Dylan Thomas put it, "in love with the sound of words", (and also because I needed an indexing program), I also have on my shelves a purpose-built indexer called ANSIBLEINDEX (no, I have no idea why it is called that), which includes a utility program called GREASE that does all sorts of interesting things with statistics on words. You will have to wait until another time to find out why it's called GREASE. ANSIBLEINDEX works only on LOCOSCRIPT.

So, I ran the article through each of these programs, and got the following interesting results.

1. Computer One,s SPELLING CHECKER defines a word as "...a sequence of letters, hyphens and apostrophes." and it came up with a count of 1971 words.

2. LOCOSPELL defines a word as "...one or more printing characters surrounded by spaces..." and found 2098 such items.

3. ANSIBLECHECK (part of ANSIBLEINDEX) looked for "...all contiguous strings of characters..." (not "strings of contiguous characters", which could be quite different) and found 2108 of them.

4. GREASE, another part of the ANSIBLEINDEX program, came up with a count of 2080 words - this part specifically omits words that comprise only numerals, so I went through and counted those "words", added them on, and got 2089.

5. WORDCOUNT, which I typed in from the November 1986 issue of The Amstrad User, says it counts the "...actual number of words...", but gave no other definition, and came up with 2134.

Incidentally, when I counted the damned things myself, I made it 2100 - but then I did not count the odd dash (like that one) as a word.

The moral seems to be, if you are being paid by the word, use WORDCOUNT - but if you must keep under a deadline, then SPELLING CHECKER is the one to swear by.

Brian Howes, Wagga Wagga, NSW

*A spelling cheque for \$25 to Brian Howes - although we hope he wasn't counting on it!*

I've seen the 'User Guide' for the PCW8256 variously described in your journal as: 'the dreaded manual'; 'an obscure manual...containing tortuous instructions' and 'an evergreen source of frustration' (all these, incidentally, from your May issue).

Recently acquired, the user guide for my new PCW8256 is no exception and though thinking I had average intelligence - 67 years of worldly rough and tumble and a University Honours degree - I have found that the only way for me to

cope with the 'dreaded manual's tortuous instructions' and avoid 'repeated frustration' is to commit to paper each sequence in the word processing program.

Firstly, I 'unspiralled' the first 170 pages of the Manual (the first 8 pages of intro, the 150 numbered pages, and the 12 final pages which include the index). These were then placed in a standard two-hole ring binder (an A4 one from Coles stationery department cut down in size to 25cm x 18.5cm). The holes punched for the previous spiral binding fit exactly so no extra mutilating punching is required thus permitting you to re-unite these pages with their original binding should this ever be required.

Next I prepared a series of sheets of typing paper and some manila alphabetical index cards to exactly the same size as the user guide pages (23cm x 16.5). On the typing paper was then printed (using the PCW8256 of course) my own blow by blow interpretation of the various tactics required to achieve such things as:

Text identification on files; moving files from group to group; changing discs; using M as a shunting yard; the various fonts available in LocoScript; printing only one of several pages; the capability of the printer to produce carbon copies; accents for foreign correspondence etc etc.

These all contain a reference to the relevant (sic) page in the manual and are then filed adjacent to that page. The

**All letter for the Mailbag section should be addressed to:**

**The Editor**

**The Amstrad User**

**1/245 Springvale Road  
Glen Waverley, Vic 3150**

**We regret that we cannot enter into any personal correspondence.**



manila cards are inserted at various often-used points in the manual to aid speedy reference.

I hope, as I use the PCW8256 more and more for my work, I will need to refer to my manual less and less. Until then this beginner passes on these ideas to others who may find them useful.

Michael Williams

Our family has a CPC6128 Amstrad computer and enjoy reading your magazine and have typed in many listings. The kids particularly enjoy the games programs.

I have written a poem about a computer addict, and, although I know you don't usually publish poems I thought you might find this one amusing, so I'm sending it to you for your consideration.

**HOOKED!**

The night is dark and far advanced,  
As over the keys his fingers dance.  
Paper is torn and pencils chewed,  
Printing is studied and hopes renewed.  
In the bedroom, all alone,  
Tosses his wife, with weary moan,  
While in the study her husband sits,  
Completely oblivious to her fits.

His eyes are blood-shot and bleary.  
His fingers are sore and weary.  
But, at last, he has success;  
The program runs, one of his best!  
he leans back with contented sigh,  
Too weary even to utter a victor's cry.

His abandoned wife is now asleep,  
Beaten by the electronic creep.  
All around him in messy array,  
Empty coffee cups and dirty plates lay,  
Abandoned among the folds of printed paper.  
Yes! Computer buffs dance a funny caper!!

Mary MacMillan, Whyalla, SA

I am a novice computer user, and have recently purchased my first equipment, which consists of a PC1512 HD20/DMP 3000 printer and "First Choice" software.

So far I have been unable to get a result from the Style font, other than "Standard" type in either draft or NLQ which is a disappointment to me, especially when I read Kathy Galante's report in the June copy of "The Amstrad User" and note that this is one of the features she enjoys, using her Brother Twinwriter, I though if I purchased compatible equipment I would not run into these

irritations.

When setting up "First Choice" the DMP3000" is not one of the listed printers, so #1 was selected as directed, (have since tried other numbers, without result).

As this is a feature of the Word Processor that I need to use, any help you can give would be appreciated.

Andrew Stevenson, Castlemaine, Vic

I read with a great deal of interest your reply in the July issue of The Amstrad User to a letter from David Brown, where you stated "The keys you press for a screen dump are EXTRA + PTR." I am using a 6128(Joyce?), and cannot determine what the keys "EXTRA + PTR." are!

I dearly would like a screen dump to printer, the Printer does not get used as much as I would like. I guess somewhere I have misunderstood the letter or your reply, however please advise how I can do a screen dump to printer on my 6128.

G.E. Hincksman, Mt. Gravatt, QLD

*A "Joyce" is a PCW. Your 6128 is an "Arnold", and you won't find an automatic*

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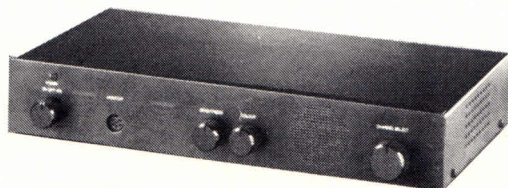
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## MAILBAG

screen dump facility on the keyboard. You'll need one of the versions we have printed in past issues to achieve the result you're looking for - sorry, it's Hobson's "Joyce"!

One of the uses to which I put my Amstrad PCW8512 is the preparation of training programs. Using condensed typeface, it should be possible to print 130 columns across a standard A4 page. However, I have found that tabs within the document do not conform to the altered layout, that is, they continue to occupy the normal space, so that the maximum width of one's document is reduced. Of course, it is not possible to simply reduce the width of columns on the screen because that makes it impossible to fit the letters in. One option is to use a suitably configured spreadsheet, but is there a way within LocoScript to solve this problem?

I have also found that Cracker2 seems most reluctant to trace graphs. Although the demonstration files produce lovely graphs, I always get an "XLABEL BLANK" message when I try either the sample data in the Cracker tutorial or my own data. Any suggestions?

Finally, Cracker2 always gives me a "not enough memory" message when I try to load my modest "TABLE.MEM" of 7k. Again, I would appreciate any suggestions.

G.J. Hasking, Moorabbin, Vic

I'm writing to you to see if anyone else has had the same problem as myself, and if anyone knows of a solution.

I am a not so happy owner of a CPC664 machine - not so happy since the CPC6128 was released about a month after my purchase. However I was happy enough running a version of WordStar, despite some drawbacks due to the limited TPA, about 48k - block copying was limited to a few lines and I could not print and edit simultaneously.

Recently I sought to rectify the situation by purchasing the dk'Tronics 64k ram expansion. After some initial problems, due to lack of proper instructions - but that is another story - I carried out a procedure which claimed to give 63k TPA. I was of course delighted. I loaded WordStar and started work. Suddenly there was no limit on the size of blocks I could deal with. I could even print and

edit simultaneously. I was happily experimenting with this new found space when I started to notice funny things happening. When working on a second file, having closed the previous file, I suddenly found bits of my first file turning up in the middle of my second file. If I then went back to my first file I would find bits of the second file in the middle to it. By opening and closing files I found everything beginning to be corrupted in this manner.

I thought I might be being a bit over ambitious. Talking with a friend more knowledgeable in these matters I created CP/M systems for 61k and 56k. Each gave the same problem. I further found that, although the procedure outline by Dk'Tronics created a 63k TPA, the system so created, if written onto the disc, was unusable. Attempts to cold boot the system produced funny dots and dashes on the screen. The same occurred with the 61k and 56k systems as well.

Does anyone know what is going on here? Given that I bought the expansion basically to increase the TPA, I feel like I have wasted my money!

Neil Ormerod, Kingsgrove, NSW

I use an Amstrad CPC664 with a 64k dk'Tronics expansion unit, modem etc. and I recently had a small problem with the keyboard.

After a telephone call to the spare parts division of Mitsubishi-AWA at Rydalmere, NSW, the necessary parts were despatched promptly and Arnold is now back to normal.

I would like to express my gratitude and appreciation for the quick and courteous attention shown to me by the staff of Mitsubishi-AWA. Back-up service of a product is most important and it is good to know that if a problem occurs you are not left without this service. Thank you Mitsubishi-AWA from a satisfied customer.

Les Patford, Secretary/Treasurer  
Hervey Bay - Maryborough Amstrad  
Computer Club.

I was impressed with the utility programs which appeared in April's magazine for PCW machines. Below is a listing of a short program which can be used to set the clock to any time you like. Line 80 includes the instruction (run

"automenu") so that after having set the time, you can choose which Basic program you want to run next. If this instruction is added to the end of your other programs, the same will apply.

```
10 REM Set Clock
20 DEF FNT(x)=x+INT(x/10)*6
30 INPUT "Hours";hrs
40 INPUT "Minutes";mins
50 INPUT "Seconds";secs
60 hrs!=FNT(hrs): mins!=FNT(mins);
secs!=FNT(secs)
70 POKE 64502!,hrs!: POKE
64503!,mins!: POKE 64504!,secs!
80 RUN "automenu"
90 END
```

Also, by typing inserting additional lines into your "automenu" program to read the clock, (as described in the February issue of TAU), the time can also be displayed on the screen.

M.A. Forbes, Holden Hill, SA

We have a number of the English mag. "Amstrad Computer User" available for sale. If any of your readers are looking for these back issues, please could they notify us on the address below.

We have 4 x May 1986, 1 x June 1986, 5 x July 1986 and 1 x November 1986.

Mrs. E. Harwood, Newcastle Amstrad  
Users Group, PO Box 18, Charlestown,  
NSW 2290.

We have had a small response so far to our request for thoughts on including "classified ads" for the purpose of selling or swapping items advertised (software excluded). We need more input so if you have any comments to make, please address them direct to The Editor, The Amstrad User, 1/245 Springvale Road, Glen Waverley, Victoria 3150.

### ADVERTISING DEADLINES

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## USER GROUP INFORMATION

# Nationwide User Groups

We are aware of a few groups who have not yet officially advised us of their existence, and until they do, we can't add them to this list. If you are one of them, don't be shy - drop us a line.

In the meantime, Steven Perissinotto wishes to start a User Group for both CPC and PCW machines in Gympie (Queensland). All interested persons should contact Steven at 7, Old Goomboorian Road, Gympie, QLD 4570.

### WESTERN AUSTRALIA

#### ALBANY AMSTRAD USER GROUP

President: Gerry Barr (098 41 6884)  
Secretary: Steven Hands (098 41 5183)  
Treasurer: Gavern Grose  
Venue: Priors Street Centre, 14 Priors Street, Albany on the first and third Mondays of each month at 7.00 pm.

#### AMSWEST (Perth)

President: Carl Hindle (09 419 1411)  
Vice Pres: John Lansdown (09 342 3154)  
Secretary: Saskia Quinn (09 444 8147)  
Treasurer: Mario Ioppolo (09 444 7691)  
Venue: Royal Institute for the Blind, cnr. Whately Cres. and Guildford Road, Maylands on the first and third Tuesdays of each month starting at 7.30p.m.

#### AMSWEST (Blackwood) USERS GROUP

This small group is affiliated to AMSWEST (Perth). For further details contact George Muscat on (097) 61 1488.

#### ROCKINGHAM-KWINANA AMSTRAD USER GROUP

President: Bob Harwood  
Vice-Pres: Keith Saw  
Treasurer: Rob MacIlroy  
Secretary: Ben Hille (095 27 5246)  
Venue: Cooloongup Primary School, Westerly Way, Cooloongup (Rockingham), every second Wednesday at 7.30 pm.  
Mail: 29 Milgrove Avenue, Cooloongup, WA 6168

#### SOUTHSIDE AMSTRAD USER CLUB

President: Tom Bird (09 457 5614)  
Secretary: Steve King (09 354 2068)  
Treasurer: Eric Tytherleigh (09 390 8865)  
Venue: Wandarrah Hall, Edgeware Street, Lynwood every 2nd and 4th Wednesday of each month from 7.00 pm.  
Mail: The Secretary, Southside Amstrad Users Club, 61 Keslake Way, Parkwood, WA 6110.

#### TOM PRICE AMSTRAD USER CLUB

President: Peter Hoffman (091 89 1608)  
Secretary: Colin Smith  
Treasurer: Mark Hedley-Smith  
Venue: Primary School every 2nd Wednesday night. Contact the above for more details.

### SOUTH AUSTRALIA

#### AMSOUTH AMSTRAD USER'S GROUP

President: Geoff Martin  
Treasurer: Bob Bleachmore (085 56 2048)  
Secretary: Ross Kennewell (08 386 2737)  
Venue: Christies Beach High School, Western Section, Beach Road, Christies Downs (adjacent to Staff Car Park off Mander Road) every 2nd Wednesday of each month at 7.30.  
Mail: PO Box 612, Noarlunga Centre, SA 5168

#### AMSNORTH AMSTRAD USER'S GROUP

Organisers: J.T. Clarkin (08 262 6342)  
R. Britton (08 258 7861)

Venue: Lacrosse Hall, Terama Street, Gepps Cross every Wednesday at 7.00 p.m.

#### AMSTRAD COMPUTER CLUB INC. (SA)

President: Chris Sowden (08 295 5923)  
Vice Pres: Frank Matzka (08 382 2101)  
Treasurer: Les Jamieson (08 356 9612)  
Venue: The Church Hall, 15 Clayton Avenue, Plympton between 6.30 p.m. and 9.00 p.m. each Tuesday.  
Mail: PO Box 210, Parkholme, SA 5043

#### NORTHERN COMPUTING SOCIETY INC.

President: Grant Wilson (08 250 2760)  
Treasurer: Percy Cook (08 248 1065)  
Secretary: Judith Thamm (085 20 2377)  
Venue: Salisbury North Primary School, cnr Bagster and Woodyates Rds every Wednesday from 7.00 pm.  
Mail: PO Box 269, Two Wells, SA 5051

#### PORT LINCOLN AMSTRAD USERS GROUP

Contact: Rita Bascombe (086 82 1633)  
Venue: Third Tuesday of each month from 8.00 pm. Ring above number for address.

#### PORT PIRIE AMSTRAD USER GROUP

President: Doug Gowars (086 36 5206)  
Treasurer: Dave Green (086 32 6834)  
Secretary: Tim Eckert  
Youth Rep: Mark Fusco (086 36 2452)  
Venue: Education Centre, 370 The Terrace, Port Pirie every 2nd and 4th Monday from 7.30 pm.  
Mail: The Port Pirie Amstrad User Group, c/o D.T. Green, 207 Senate Rd., Port Pirie, SA 5540.

#### SOUTH EAST AMSTRAD USER GROUP (SA)

Contact: Neil Taylor (087 25 8068)  
Venue: Mount Gambier from 1.00p.m. to 4.00p.m. on the 3rd Sunday of each month. Ring above number for address.

### NORTHERN TERRITORY

#### DARWIN AMSTRAD USER GROUP

President: Kevin Bateman (089 32 1463)  
Treasurer: Jeff Powis (089 27 5557)  
Secretary: Kiem Le (089 32 1820)  
Venue: Casuarina Library, Darwin at 8.00 p.m. every 2nd and 4th Monday.

### VICTORIA

#### CENTRAL AMSTRAD USER SOCIETY

President: Fred Gillen (03 580 9839)  
Vice-Pres: Dennis Whelan (03 367 6614)  
Treasurer: Doug Jones (03 560 8663)  
Secretary: John Holmes (03 434 1607)  
Venue: Hall at the corner of Church and Somerset Streets, Richmond on the first Sunday of each month commencing at 1.00 p.m. and generally twelve days later on a Friday evening starting at 7.00 p.m.

#### EASTERN AMSTRAD USER GROUP Inc.

Secretary: Bob MacDonald (03 878 7783)

Treasurer: Ron Dunn (03 277 7868)  
Venue: St. Ninian's Church Hall, cnr. McCracken Avenue and Orchard Grove, South Blackburn on the 1st Sunday of each month from 1.00pm.  
Mail: R.D. MacDonald, 6 Ashwood Drive, Nunawading, Vic 3131

#### GEELONG AMSTRAD USER CLUB

President: Reg Morse (052 43 3239)  
Vice-Pres: Arthur Pounsett (052 78 2160)  
Secretary: Ron Butterfield (052 50 2251)  
Venue: South Barwon Community Services Centre, 33 Mount Pleasant Road, Belmont on the first Wednesday of each month, starting at 7.30p.m.

#### GOULBURN VALLEY AMSTRAD USERS CLUB

President: Shad Aitken (058 52 1001)  
Sec/Treas: Bill Brown (058 21 7569) or (058 22 1011)  
Venue: 98 Nixon Street, Shepparton on the first floor every third Wednesday from 7.30 pm.

#### LATROBE VALLEY AMSTRAD USER GROUP

President: Stan Hughes  
Secretary: M.G. Donaldson (051 345 711)  
Venue: Morwell Neighbourhood House, 17 Symons Crs., Morwell on the first Thursday of each month at 7.30pm.  
Mail: PO Box 947, Morwell, Vic 3840

#### MACEDON RANGES AMSTRAD USER GROUP

Contacts: Wayne Urmston (03 744 2719)  
Ken McMaster (054 22 2620)  
Venue: Contact above for details of venue and meeting times.

#### MARYBOROUGH AMSTRAD USER CLUB

President: Chad Banfield (054 68 1351)  
Treasurer: Brendan Severino (054 61 3191)  
Secretary: Paul Clark (054 61 2135)  
Venue: Maryborough CCC each week on Friday from 12.10 p.m.

#### MOUNTAIN DISTRICT AMSTRAD USER GROUP

President: Ian Poli (03 758 5282)  
Treasurer: Lindsay Bell (03 758 9921)  
Venue: Country Womens Association Hall, 4 Sundew Avenue, Boronia from 7.00 pm. every second Monday of the month.  
Mail: PO Box 132, The Basin, Vic 3154

#### NORTHERN AMSTRAD USER GROUP

Contact: Brian Ellis (03 469 4425)  
Venue: Preston every second Sunday. Contact above for more details.

#### SOUTHERN AMSTRAD USER GROUP INC.

President: Noel Sheard (03 786 5469)  
Secretary: Bob Patterson (03 786 6976)  
Treasurer: Christine Donaghey  
Venue: Senior Campus at John Paul College, Frankston every third Tuesday from 7.30 to 10.30 pm.  
Mail: The Secretary, PO Box 100, Seaford, Vic 3198.

#### WENDOUREE AMSTRAD USER GROUP

Contact: Brad Maisey (053 44 8356)  
Venue: Cnr. Charles and Appleby Drive, Cardigan Village on the first Sunday of each month at 3.00 pm.

#### WESTERN COMPUTER CLUB

Venue: Fairbairn Kindergarten, Fairbairn Road, Sunshine on alternate Tuesdays from 6.30 pm.  
Mail: PO Box 161, Laverton 3028.

### ACT

#### CANBERRA AMSTRAD USER'S GROUP

Convenor: Neale Yardley  
Secretary: Steven Walker (062 58 2323)  
Editor: John Ault (062 47 5747)  
Venue: The Oliphant Building, ANU, Canberra on the first Wednesday of each month from 7.30 pm.  
Mail: PO Box 1789, Canberra, ACT 2601.

### NEW SOUTH WALES

#### AM-USER's (North Ryde)

Contact: Lawrence Walters (02 888 1898)  
Venue: Meeting Room at 2 Leisure Close, North Ryde



# USER GROUP INFORMATION

from 7.30 p.m. on the first Tuesday of each month.

## BLUE MOUNTAINS AMSTRAD USERS

President: Bob Chapman (047 39 1093)  
Vice Pres: Dennis Shanahan (047 39 4568)  
Treasurer: Peter Traish (047 53 6203)  
Secretary: Christine Preston (047 51 4391)  
Venue: Springwood Neighbourhood Centre, Macquarie Road, Springwood on the fourth Wednesday of each month at 8.00 p.m.

## CENTRAL COAST AMSTRAD USERS CLUB

President: Lloyd Mitchell (043 88 2950)  
Secretary: Ray Thompson (043 32 9095)  
Venue: The Entrance Aquatic Club, Salt Water Reserve, Long Jetty every second Monday at 7.30 p.m. sharp.

## COFFS HARBOUR AMSTRAD COMPUTER CLUB

President: Bruce Jones (066 52 8334)  
Secretary: Don Donovan (066 52 6909)  
Treasurer: Brian Claydon (066 49 4510)  
Venue: Orara High School, Joyce Street from 7.00 pm. on the first Friday of each month.

## FAIRFIELD MICRO USER GROUP

Contact: Arthur Pittard (02 72 2881)  
Venue: Room 65, Canley Vale High School, Prospect Road, Canley Vale every third Wednesday from 7.00 pm.

## HAWKESBURY AMSTRAD USER GROUP

Contact: Terry Webb (045 76 5291)  
Venue: Richmond Swimming Centre, East Market St., Richmond every third Tuesday at 7.30 pm.

## ILLAWARRA AMSTRAD USERS CLUB

President: Paul Simpson (042 27 1574)  
Secretary: Ken Waagele (042 56 6105)  
Publicity Off: Steve Parsons (042 96 3658)  
Venue: AGA Gremania Club, Berkeley at 2.00 pm. every third Saturday.

## LISMORE DISTRICT AMSTRAD COMPUTER CLUB

President: Max Muller (066 337 113)  
Vice Pres: Nick Van Kempen (066 874 579)  
Sec/Treas: Chris Rosolen (066 219 754)  
Venue: Goonellabah Public School, Ballina St. on the last Tuesday of each month from 6.30 pm.  
Mail: PO Box 88, South Lismore, NSW 2480

## S & W MILLER AMSTRAD USER'S CLUB

President: Wal Sellers (049 33 5459)  
Secretary: Nikki Lee (049 33 5459)  
Treasurer: Georgina Todd (049 66 2788)  
Venue: Maitland Park Bowling Club, Maitland on the second Tuesday of each month at 7.30 pm.

## NAMOI AMSTRAD USERS GROUP

Contact: Martin P. Clift, JP (067 92 1333) B/H (067 92 3077) A/H  
Venue: Narrabri Technical College, Barwan Street, Narrabri on the first Saturday of each month at 2.00 p.m.

## NEWCASTLE AMSTRAD USER GROUP

President: John Harwood  
Treasurer: Erica Harwood  
Secretary: Janet Bowen  
Venue: Kotara Public School, Park Avenue, Kotara on the first Tuesday of each month. Contact the above for meeting times.  
Mail: PO Box 18, Charlestown, NSW 2290

## PCW AUSTRALIA GROUP

President: John Joseph (02 331 2717)  
Treasurer: David Springett (02 660 4515)  
Venue: Auburn Public School, Adderley St., Auburn every second Tuesday of the month at 7.30 pm.  
Mail: PO Box 1879, North Sydney, NSW 2060.

## PORT MACQUARIE AMSTRAD USERS GROUP

Mail: Craig Tollis, Box 584, Port Macquarie, 2444.

## SYDNEY AMSTRAD COMPUTER CLUB

President: Bob Knowles (02 810 7373)  
Secretary: Reed Walters (02 560 9487)  
Treasurer: Jim Chrissy (02 927 7872)  
Venue: Newtown area on the 1st Saturday of every month for a normal club meeting and on the 3rd Saturday for the purposes of programming

tutorials only. Both meetings commence at 2.00 p.m. For more details contact either the Secretary or Treasurer between 6.00 p.m. and 9 p.m.

## SYDNEY PC1512 USER GROUP

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

## QUEENSLAND

### BRISBANE AMSTRAD COMPUTER CLUB

President: Paul Witsen (07 393 4555)  
Secretary: John Roberts (07 283 3349)  
Treasurer: John O'Connor (07 271 3350)  
Librarian: Peter Gollidge (07 376 1651)  
Venue: Main meetings at in Room 15a of Junction Park State School, Waldheim St., Annerley starting at 7.30p.m. Another is held at Wynnum Central State School, Florence Street, Wynnum Central on the first Saturday of each month at 1.00p.m. The co-ordinator is Warren Kennedy (07 351 4232). A third is held at Newmarket State School, Banks St., Newmarket on the second Saturday of each month at 1.30p.m. The co-ordinator is Cherry Shrier (07 351 6179).

### BUNDABERG AMSTRAD USER'S GROUP

President: Ray Babbidge (071 72 1223)  
Secretary: Ron Simkin  
Treasurer: Sheila Cole (071 72 8884)  
Venue: The third Tuesday of the month. For more details contact the above.  
Mail: PO Box 865, Bundaberg, QLD 4670.

### CABOOLTURE AMSTRAD USER GROUP

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

### CAPRICORN AMSTRAD USERS GROUP

Contact: Graeme Annabell (079 27 4915)  
Venue: Waraburra State School, Gracemere on the first Friday of each month at 7.00 pm.

### GOLD COAST AMSTRAD USER GROUP

Contact: Mark Abbott (075 31 2114)  
Venue: Ashmore Health and Medical Centre, Cotlew St. on the first Saturday of each month at 2.00.  
Mail: 17 Ewan Street, Southport, Qld 4215

### HERVEY BAY - MARYBOROUGH AMSTRAD COMPUTER USER GROUP

President: Ian Jardine (071 28 3688)  
Vice-Pres: Gerhard Schulze  
Sec/Treas: Les Patford (071 28 9737)  
Venue: The first Thursday of each month at 7.00 pm, alternating between the Hervey Bay Senior College and Maryborough TAFE College. Contact the above for more details.  
Mail: Les Patford, PO Box 24, Torquay, Qld 4657

### MACKAY AMSTRAD USER GROUP

Contact: Des Mulrealley (551 409)  
Ron Coates (547 222)  
Venue: Meet every second Sunday morning. Contact the above for location and time.

### PENINSULA AMSTRAD CLUB

President: Ivan Dowling (07 269 8795)  
Treasurer: Keith Johnston (07 203 2339)  
Secretary: Tracie Payne (07 267 6645)  
Venue: Kippa-Ring State School Library, Elizabeth Avenue every third Tuesday of the month at 7.30 pm.

### SOUTHSIDE AMSTRAD USER GROUP (QLD)

President: Michael Toussaint (07 200 5414)  
Vice-Pres: Peter Incoll (07 208 2332)  
Secretary: Ken Henry (07 208 8730)  
Treasurer: Wayne Stephens (07 287 2459)  
Librarian: Brian Moore (07 209 1488)  
Venue: Loganlea State High School (in the Communications Room) every third Saturday of the month starting at 2.00 p.m. A Basic programming course is held fortnightly.

### TOOWOOMBA AMSTRAD USERS GROUP

President: Stephen Gale (076 35 5001)

Vice-Pres: Robert Nisbet (076 35 7025)  
Secretary: Malcolm Woodside (076 32 8867)  
Treasurer: Peter Fraser (076 34 7032)  
Venue: Toowoomba Education Centre, Baker Street, Toowoomba on the 4th Monday of each month.

### TOWNSVILLE AMSTRAD USER GROUP

President: Ian Wallace (077 73 1798)  
Vice Pres: Doug Selmes (077 79 6011 xt 252)  
Treasurer: Allan Maddison (077 79 2607)  
Secretary: S. Crawshaw (077 73 3933)  
Venue: Science Block of the Kirwan High School in Thuringowa Drive on the first and third Tuesdays each month at 7.30pm.

### THE WARWICK AMSTRAD USER GROUP

President: Mrs. D. Christensen  
Secretary: John Wade (076 61 5176)  
Treasurer: Neville Christensen  
Venue: Warwick Education Centre on the first Saturday of each month from 3.00 p.m.

### WEIPA AMSTRAD USERS CLUB

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

### WESTERN SUBURBS AMSTRAD USERS GROUP

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

## TASMANIA

### SOUTHERN TASMANIAN AMSTRAD USER CLUB

President: Frank Self (002 49 5499)  
Secretary: Peter Campbell  
Treasurer: Cindy Campbell  
Publicity Off: Danny Brittain (002 47 7070)  
Venue: Elizabeth Matriculation College on the first Wednesday of each month from 7.30 pm.

### NORTHERN TASMANIA AMSTRAD COMPUTER CLUB

President: Paul Gerard (003 34 0441)  
Treasurer: Russell Lockett (003 44 8972)  
Secretary: Andrew Blazely (003 93 1687)  
Publicity: Marie Griffiths (003 93 6568)  
Venue: Launceston Community College (opposite Park Street) in Room 11 on the first Saturday of the month at 5.00 p.m.

### N.W. COAST AMSTRAD USER'S CLUB

President: Rick Ferguson (004 31 6280)  
Treasurer: Robert Simpson  
Secretary: Karen Stevenson  
Venue: Burnie Technical College, Mooreville Road, Burnie on the third Friday of each month at 6.30 p.m.

## NEW ZEALAND

### AMSTRAD CANTERBURY

Contact: Christine Linfoot 459 132  
Ian Orchard 524 064  
Venue: Four Avenues School, cnr. Madras Street and Edgeware Road, Christchurch 1 on the fourth Wednesday of each month.  
Mail: PO Box 23.079 Templeton, Christchurch, NZ.

### WELLINGTON AMSTRAD USER GROUP

Contact: Tony Tebbs 791 072 (evgs)  
Venue: Room 718, Kirk Block, Victoria Univ. on the last Wednesday of each month from 7.30 pm.  
Mail: PO Box 2575, Wellington, New Zealand.

**The closing date on amendments to this list for Issue 35 (November 1987) is 25th September 1987**



# Cheat Mode

## More Cheats than you can Poke a Program at!

### BOMBjack II

Elite's follow-up to Bombjack has resulted in a flood of pokes. First out of the bag was Declan Kennedy's. Use Method 1. You can choose the number of lives and moving or stationary reptiles.

```

1 ` Bombjack II
2 ` by Declan Kennedy
3 ` The Amstrad User Sep 87
10 MEMORY &16A7
20 BORDER 0:MODE 0
30 FOR x=0 TO 15:READ y
40 INK x,y:NEXT
50 LOAD"!b2screen.bin",&C000
60 LOAD"!b2code.bin",&175C
70 MODE 2:INK 1,26:INPUT"Moving
reptiles (Y/N) ";k$:IF k$="y" OR
k$="Y" THEN 80 ELSE POKE
6505,25:GOTO 80
808 INPUT"Infinite lives (Y/N)
";k$:IF k$="y" OR k$="Y" THEN
POKE 6744,0:GOTO 120 ELSE 90
90 INPUT"How many lives ";n
100 IF n<1 OR n>255 THEN 50
110 POKE 6744,n
120 MODE 0:CALL &1770
130 DATA 0,26,1,8,11,10,14,5
140 DATA 20,15,21,25, 6,3,12,24

```

### GRAND PRIX RALLY II

J. Hall has some advice on surviving this old game. Just drive as far as possible on the right of the road and you'll miss the other cars. You can't do this on the water circuits. Slow down for right turns to avoid drifting out but go full-tilt on the left bends.

### ANDROID 2

The Computer Hits 2 compilation tape

has been given some rough treatment by Richard Hodges. The first to fall is Android 2. By either typing in or discarding the data after the rem statements you can select immunity to aliens, infinite time or both. Method 1.

```

1 ` Android 2
2 ` by Richard Hodges
3 ` The Amstrad User Sep 87
10 OPENOUT"d":MEMORY &500
20 LOAD"and2mc",&A8C
30 ` immunity to aliens
40 POKE &2806,&C9
50 ` infinite time
60 POKE &3070,&C9:CALL &A8C

```

### MUTANT MONTY

Another Computer Hits 2 game, Mutant Monty, has been attacked by Richard Hodges. Enter the poke using Method 1 to get infinite lives, invulnerability and a start-at-any-room option. During the game, press 4 to alter the level.

```

1 ` Mutant Monty
2 ` by Richard Hodges
3 ` The Amstrad User Sep 87
10 MODE 1:MEMORY &1500
20 INPUT"Start screen (1-40) ";b
30 IF b<1 OR b>40 THEN 20
40 LOAD"!code":CALL &1D7C
50 ` press 4 to alter screen
60 POKE &9498,&CD
65 POKE &9499,&66:POKE &949A,&9E
70 ` start room'
80 POKE &A1C6,(b-1)
90 ` invulnerabilty
100 ` poke &91a6,0
110 MODE 0:BORDER 0:CALL &A79E

```

### SIGMA 7

Durell's noisy shoot-em-up/eat-em-up/puzzle-bit has been given numerous lives and a start-at-any-level option. All thanks to Mark Bennett. This is a Method 1 poke.

```

1 ` Sigma 7
2 ` Mark Bennett
3 ` The Amstrad User Sep 87
10 MODE 1
20 INPUT"Start level (1-7) ";st
30 IF st<1 OR st>7 THEN 10
40 INPUT"How many lives (1-255)
";x
50 IF x<1 OR x>255 THEN CLS:GOTO
40

```

```

60 INPUT"How many Bonus Lives
(1-30) ";y
70 IF y<1 OR y>30 THEN CLS:GOTO
60
80 MODE 0:BORDER 0
90 FOR a=0 TO 15:READ i:INK a,i
:NEXT
100 b=&BC00:c=&BD00
110 FOR a=1 TO 3:READ d:OUT
(b),d
120 READ d:OUT (c),d:NEXT
130 OPENOUT"d":MEMORY &BFF
140 LOAD"!sigscn",&C000
150 LOAD"!main"
160 MODE 1:INK 1,18:INK 3,6
170 POKE &867C,0
180 POKE &867D,0
190 POKE &867E,0
200 POKE &2171,st-1
210 POKE &8680,x
220 POKE &8718,y
230 CALL &8236
240 DATA 0,6,1,26,24,3
250 DATA 2,13,25,14,26
260 DATA 11,3,18,3,6
270 DATA 1,32,2,43,6,24

```

### IKARI WARRIORS

An interesting tip for Elite's shoot-em-up comes from David Swindon.

When the prompts come up on screen for you to choose the controls, player one should choose keyboard and enter the joystick controls. Player two should choose joystick one. Now choose a two-player game. The two players will be controlled by the same joystick.

Move them to the edge of the screen until they've closed up into close formation. You can now move about blasting with twice the firepower.

### IMPOSSABLE

Here is a lengthy poke for the disc version of Hewson's bouncing game. A nasty protection scheme is the cause for such a long listing. Still, the result is infinite lives and time. Type in the poke exactly as printed and save it to a disc other than the game disc. Insert Hewson's disc and run. The poke does not write to the disc so don't fret.

Incorporated in the listing is some pretty hefty error-checking: it's virtually impossaball (sorry) for an error to go undetected. However, you must type in exactly what you see - that includes line numbers, the reason being that the check routine works on line numbers. If



you alter them the system will become confused.

Once you've got the poke to work, you can alter line 870 to read: SAVE "IMPOSPOK", B, &4000, &210:END. Run the poke again. This will save a file impospok.bin onto your disc. Now enter the following line of Basic: 10 MEMORY &3FFF:LOAD "IMPOSPOK.BIN": CALL &4000 and save it as impospok.bas. Run this file when you want to cheat - it saves a lot of waiting, for the original listing has to read the data in every time you run it.

```
10 ` Impossaball - disc
20 ` by Richard Montiero
30 ` The Amstrad User Sep 87
40 MODE 2:PRINT"WAIT..."
50 PRINT"POKING "
60 DATA 2A,42,BE,06,19,AF,77
70 DATA 23,10,FC,11,00,90,CD
80 DATA 9B,BC,3E,01,CD,0E,BC
90 DATA 21,00,20,CD,E7,41,CD
100 DATA CA,41,7C,FE,3E,20,F2
110 DATA 7D,FE,7A,20,ED,21,00
120 DATA 20,11,40,40,CD,BE,41
130 DATA CD,72,BE,4C,4F,41,44
140 DATA 45,52,80,A4,80,52,50
150 DATA 4D,1B,6F,04,58,4E,E8
160 DATA 59,6B,60,8A,DC,B2,76
170 DATA C0,00,05,F9,C2,2D,A2
180 DATA D3,A5,93,E0,52,8C,1D
190 DATA 66,FD,5A,A5,C1,5B,4D
200 DATA 64,84,DE,52,4C,EB,34
210 DATA 07,2D,2C,80,2D,20,04
220 DATA 48,8B,02,39,FD,43,4F
230 DATA 6D,16,1E,0F,22,46,3B
240 DATA 3F,3E,3F,5F,46,50,2E
250 DATA 41,48,50,02,FA,0D,72
260 DATA 8A,1A,40,85,68,FE,EF
270 DATA 67,53,51,2E,D1,40,3B
280 DATA C0,3F,0B,39,E4,AE,24
290 DATA 1E,16,67,92,0D,3D,0F
300 DATA 0D,FB,72,50,64,0B,DC
310 DATA AC,B7,4E,37,C5,5F,03
320 DATA 0F,2F,A3,AC,22,22,14
330 DATA 6D,8C,07,76,83,7A,45
340 DATA 7C,A7,E3,63,63,55,22
350 DATA CD,48,7E,32,4A,B6,31
360 DATA 15,2B,4E,9F,16,2C,FF
370 DATA 19,80,40,38,B0,41,15
380 DATA E6,92,98,D2,10,C4,58
390 DATA 8B,13,44,B0,DC,EA,A0
400 DATA ED,11,96,E4,5A,11,C7
410 DATA 79,13,F1,8F,E9,5F,41
420 DATA 8D,7A,39,C9,5B,7F,54
430 DATA C4,F1,A8,39,E4,DD,3E
440 DATA 52,D7,0E,1B,4A,66,34
```

```
450 DATA 6C,E2,BF,21,8D,28,45
460 DATA 64,BA,48,BD,17,58,AC
470 DATA D8,E6,A4,E9,1D,92,F8
480 DATA 5E,1D,B2,8C,11,2C,FC
490 DATA 16,AA,32,AC,99,36,2C
500 DATA 21,2F,19,F1,FE,97,7B
510 DATA 57,84,20,60,32,4C,BC
520 DATA 3D,FE,00,38,A1,AF,CD
530 DATA 2E,BC,C9,21,5A,BC,E5
540 DATA 1A,08,13,ED,78,87,30
550 DATA FB,87,38,05,1A,0C,ED
560 DATA 79,0D,3E,06,3D,20,FD
570 DATA 08,3D,20,E8,ED,78,CB
580 DATA 67,28,0C,FE,C0,38,F6
590 DATA 0C,ED,78,77,23,0D,18
600 DATA EE,EB,E1,C9,01,7E,FA
610 DATA ED,79,C9,11,47,BC,CD
620 DATA FC,BB,CB,5E,C8,F1,18
630 DATA 89,02,4A,00,03,0F,00
640 DATA 00,01,08,09,46,00,00
650 DATA 00,41,01,42,2A,FF,02
660 DATA 07,00,FF,FF,FF,FF,00
670 DATA 00,00,00,00,00,00,00
680 DATA 00,00,00,00,00,00,00
690 DATA 00,00,00,00,00,06,FF
700 DATA 7E,4F,1A,A9,12,23,13
710 DATA 10,F7,C9,EB,21,00,00
720 DATA 22,E5,41,06,FF,1A,26
730 DATA 00,6F,D5,ED,5B,E5,41
740 DATA 19,22,E5,41,D1,13,10
750 DATA EF,C9,7A,3E,54,5D,ED
760 DATA 5F,FE,35,20,F8,06,FF
770 DATA ED,5F,12,13,10,FA,1B
780 DATA 1A,FE,63,20,EA,C9,F8
790 DATA 06,FF,ED,5F,12,13,10
800 DATA FA,1B,1A,FE,63,20,EA
810 DATA C9
820 start=60:count=0
830 FOR t=&4000 TO &4200
840 READ a$:GOSUB 890:LOCATE 8,2
:PRINT
"&";HEX$(t);", "&";a$:z=VAL("&"a$)
850 x=x+z:POKE t,z:NEXT
860 IF x<>55646 THEN 880
870 CALL &4000
880 PRINT"CHECKSUM ERROR":STOP
890 count=count+1:IF count=8
THEN count=1:start=start+10
900 IF LEN(a$)<>2 THEN f=1:GOTO
940
910 FOR lin=1 TO 2:b$=UPPER$(
(MID$(a$,lin,1))
920 IF INSTR("0123456789ABCDEF",
b$)=0 THEN 940
930 SOUND 2^INT(RND*3),
start+count,2,7:NEXT:RETURN
940 PRINT"ERROR in line";start;
"DATA item";count;:IF f=1 THEN
PRINT"- DATA must be two charac-
```

```
ters in length" ELSE PRINT" -
invalid character"
950 END
```

### STARSTRIKE II

Colin Ward enjoys hacking into Firebird loaders. To prove it, he has sent in infinite shields, infinite fuel and a poke to prevent your laser from over-heating, all this for Starstrike II - and it's even entered using Method 1.

```
1 ` Starstrike II
2 ` by Colin Ward
3 ` The Amstrad User Sep 87
10 DATA 2a,3f,1d,22,38,bd,cd,37
20 DATA bd,af,32,a0,24,c3,5f,01
30 DATA c9,2a,38,bd,22,3f,1d,2a
40 DATA 01,bb,22,38,bd,21,00,1d
50 DATA 3e,c3,32,30,00,22,31,00
60 DATA 3e,f7,32,38,bc,c3,00,19
70 DATA c3,00,1d
80 MODE 1=MEMORY &18FF:BORDER 0
90 n=0:FOR x=&1D00 TO &1D32
100 READ a$:POKE x,VAL("&"a$)
110 n=n+VAL("&"a$):NEXT x
120 IF n<>4244 THEN PRINT"Error
in Data!":END
130 LOAD"starstrike":CALL &1D11
```

### SINGE'S CASTLE

The disc version of Escape from Singe's Castle (or Dragon's Lair II) has been poked by Mark Bennet, just type in and run. You can start on any level and select the number of Dirks you'll need for the journey.

```
1 ` Singe's Castle - disc
2 ` by Mark Bennet
3 ` The Amstrad User Sep 87
10 MODE 1:OPENOUT"d":MEMORY &2FF
20 LOAD"d12",&300
30 INPUT"Enter start level (1-8)
";s
40 IF s<1 OR s>8 THEN CLS:GOTO
30
50 POKE &7BOC,s-1
60 INPUT"number of lives (1-255)
";n
70 IF n<1 OR n>255 THEN CLS:GOTO
60
80 POKE &7C8B,n:POKE &7C87,0
90 POKE &7C88,0:POKE &7C89,0
100 CALL &1B43
```

### GAUNTLET

Paul Langton has some more tips for the US Gold game that apply more to



two players than one.

1. Always work as a team - that way you'll have more chance of surviving.
2. Choose Thor and Merlin because this gives you the best balance of strength and magical power. Always let Merlin take the potions as he has the better magic power of the two.
3. There are three ways of dealing with Death: run away, use a potion to kill him, or shoot him while he attacks you since you get points for each shot.
4. When fighting demons try to avoid the fireballs and trick them into shooting each other and the generators.
5. Destroy a Sorcerer generator as quickly as possible and then deal with the Sorcerers.
6. If one player dies always check the spot where it happened. There will be either a generator or keys. Shoot the generator or pick up the keys; there may be more than one there.
7. Always let the stronger player go first, ensuring prolonged survival of both.
8. In the three diagrams you can see how the two players (A and B) can cover each other in certain situations.

### SHORT CIRCUIT

The disc version of Ocean's film-licensed game has been given the treatment. Nicholas "I'm studying for my exams so won't be poking for a while" Pavis is the man to blame. Type in the poke. Save it. Run it. If you are presented with a blank screen then inspect the listing, taking particular note of the data statements: there is no checksum, so take care when typing. Write-protect the disc just in case you made a boo-boo.

The poke removes those nasty trouser-dropping men and allows you to walk through sleeping sheep (don't jump on them, though). You don't know what I'm talking about? That's because these features are found in part two of the game which, incidentally, is reached by pressing the keys o-c-e-a-n simultaneously.

```
1 ` Short Circuit - disc
2 ` by Nicholas Pavis
3 ` The Amstrad User Sep 87
10 MODE 1:PRINT"INSERT SHORT
CIRCUIT DISC & PRESS A KEY"
20 WHILE INKEY$="" :WEND
```

```
40 MEMORY &2FFF:LOAD "disc.bin"
60 FOR a=0 TO 9:READ a$
70 POKE a+&3F13,VAL("&"a$):NEXT
90 DATA 3e,71,32,76,00
100 DATA 3e,96,32,b4,00
110 FOR a=0 TO 48:read a$
120 POKE a+&BD00,VAL("&"a$)
130 NEXT
140 DATA 21,8b,a1,36,0b,23
150 DATA 36,bd,c3,73,a1,21
160 DATA 81,02,36,80,23,36
170 DATA 0b,21,21,bd,11,80
180 DATA 0b,01,1f,00,ed,b0
190 DATA c3,0a,02,21,48,0d
200 DATA 36,00,23,36,00,21
210 DATA cf,0d,36,c9,c3,03
220 DATA 0c
230 FOR a=0 TO 127:read a$
240 POKE a+&5000,VAL("&"a$)
250 NEXT
260 POKE &30,&C3
270 POKE &31,0
280 POKE &32,&BD
290 CALL &3EDA
300 DATA 42,55,47,7e,4f,46
310 DATA 46,3b,3b,fd,26,a0
320 DATA fd,2e,2e,fd,e3,01
330 DATA 2e,00,fd,09,fd,5d
340 DATA fd,54,6b,62,01,7a
350 DATA 04,ed,57,e4,00,bf
360 DATA ed,5f,ae,77,ed,a0
370 DATA e0,3b,3b,e8,ed,4b
380 DATA a7,a4,06,80,11,00
390 DATA a0,c5,1a,d5,11,28
400 DATA 05,91,21,80,a0,ae
410 DATA 77,23,1d,c2,41,a0
420 DATA 15,c2,41,a0,d1,13
```

```
430 DATA c1,4f,05,c2,37,a0
440 DATA 21,00,00,11,73,a1
450 DATA 06,1a,c5,1a,13,06
460 DATA 00,4f,09,c1,05,c2
470 DATA 5c,a0,11,78,08,a7
480 DATA ed,52,08,21,2e,a0
490 DATA 06,3d,36,c9,23,10
500 DATA fb,08,ca,98,a0,c3
510 DATA 9e,a1
```

### Mission Elevator

From M. Scott in Lismore, this tape poke will give you infinite lives.

```
10 'Mission Elevator tape poke
20 'The Amstrad User Sep 87
30 MODE 1:INK 1,5:BORDER 0
40 MEMORY &3FFF
50 LOAD "MISSION ELEVATOR"
60 FOR addr=&BE80 to &BE99
70 READ a$:POKE addr,VAL("&"a$)
80 NEXT addr
90 POKE &416D,&9D:POKE &41BA,9
100 POKE &4407,&DE:POKE
&45F6,&BE
110 POKE &45F7,&80
120 CALL &4005
130 DATA 21,8f,be,22,15,01,3e,
cf,32,3a,02,c3,40,00,af,32
140 DATA 6e,80,3e,c3,32,79,80,
c3,f3,9b
```

Send your pokes and tips to:  
The Editor (Cheat Mode)  
1/245 Springvale Road,  
Glen Waverley, Vic 3150

## Poke methods for tape

Here is how to input the majority of Cheat Mode tape pokes. The instructions for each poke tell you which of the two different methods to use. If you have a 664 or 6128, first type 1 tape.

### Method 1

Rewind the game tape to the beginning. Now type in the poke listing. Then type RUN and press the Enter key. (Don't use the key marked CTRL or Control; that would stop the poke from working.) Press the Play key on the cassette deck, then any key on the main keyboard - the spacebar will do nicely. The tape should now start to play through in the normal way.

### Method 2

For this method you have to skip the first bit of the game program. To do that, start by rewinding the game tape to the

beginning. Now type in the listing. Then type CAT and press Enter. Start the tape by pressing Play and then any key. Then watch the screen.

Soon you'll get the message FOUND SOMETHING BLOCK 1. It doesn't matter what the something actually is; this will vary from one game to another. If the Cheat Mode instructions just tell you to skip the first block, you should stop the tape here.

If the instructions tell you to skip several things, stop the tape when the found message comes up for the last thing you're trying to skip.

Once you've stopped the tape, press Escape, type RUN and press Enter. Now press Play on the tapedeck and any key on the keyboard to start the tape running.



# Pagemaker: the bug stops here

Would-be desktop publishers will be glad to hear that a hassle-free version of AMX Pagemaker is on its way.

Advanced Memory Systems stopped advertising the Amstrad CPC version after angry customers found it plagued with bugs. The new release will have totally revamped software with more features, new packaging and a new title: STOP PRESS.

Trouble started, according to Pagemaker's original designer, Alex Blok, when the management of the firm that was supposed to convert the software to the Amstrad CPCs (from the BBC Micro version) decided to ignore the designer's specifications for three separate modules - definer, previewer and processor - and merge them into one. Naturally such a major change brought unsuspected bugs.

The bugs - such as cross-heads scrolling if you define a graphics window and scroll the page - were discovered only after that firm, Cygnet Computer Consultants, handed the product over to AMS. Cygnet made corrections and delivered a revised version. More bugs were born.

But Cygnet has now ceased trading.

However, Gary Allen, who was Cygnet's programmer on the project, is now finishing the job free-lance, after a fresh start in close collaboration with Alex.

"Basically all the facilities that don't

work at the moment will work. I debugged them myself," said Alex. "It will be a better program than at present. For instance, at present there are three fonts in memory; the program will now display the font name. It sounds a little thing, but if you've used it you'll appreciate it."

"My philosophy is that the designer should be responsible. He has to think about how the user is going to work with it. And I think software should look as good as it performs."

Why the name change from Pagemaker to Stop Press? In one word, Aldus: a bigger American firm who chose the same name for a similar program normally associated with Apple Macintosh.

The CPC, PCW and IBM versions of AMX Pagemaker were originally to have been launched over a year ago. The Amstrad PCW is at last almost ready for release, but the IBM version which was to have been more upmarket, has been shelved.

So where does this leave Australian users who have already purchased the bugged version? Neville Wright, Managing Director of Amsnet International in Queensland told The Amstrad User that he was waiting for the new master to arrive from the UK. All users will be asked to return their original disc (not a copy) and the new version will be transferred.

## Amstrad takes the lead in Europe

Figures published recently by International Data Corporation, a leading research firm, show that Amstrad's CPC home computers, the babies of the range, combined with the newly acquired Sinclair products, boosted total 1986 sales to 1.75 million units, a resounding 51% share of total home computer sales - the highest in Europe.

This puts the UK-based company way ahead of its nearest rival, Commodore, which claims a 36% market share. Atari, Thomson and Acorn account for only 7% of

the total between them.

According to figures released by another market research company, Romtec, the Amstrad PC is now claiming 40% of the UK PC market, compared with IBM's 20% share.

"These figures substantiate the quality, versatility and value for money that Amstrad users in Australia have come to appreciate in the products," said Mr. John Chandler, Amstrad Product Manager for Mitsubishi Electric AWA.

## The PCW9512

The rumours that have been circulating for some time now are shortly to become fact with the release of the PCW9512 in the UK expected this month. Whilst it looks more likely than ever that the dual drive PCW's bigger capacity B drive will be exchanged for a second drive of the size of the present A drive, the new machine will make up for the loss by having an improved keyboard, a built-in Centronics printer port and, most significantly, a quality daisywheel printer as standard. It is unlikely that the PCW9512 will reach Australia until the new year.

Another rumour circulating at the moment suggests that there are dual drive Amstrad machines looking suspiciously like 8512s floating around on evaluation - the only difference being that they have two 3.5" disc drives instead of the old 3". This would have the obvious advantage of bringing the PCW in line with most recently introduced computers which have accepted the 3.5" as standard, such as the Atari ST and the new IBM range.

## ... and the PC1640

Despite the denials by Amstrad that the new PC1640, released in the US at the Comdex Show in June, would not be available in Europe until 1988, it would seem that market demand from both distributors and the business sector have forced the early release of this enhanced IBM compatible.

Although the PC1640 comes in three models - all with colour monitors - it is likely that only the PC1640 HD ECD (20 mb hard disc drive enhanced) will be made available in Australia. It features the EGA graphics standard, which is why the high resolution monitor is required. The cost is expected to be between \$600 and \$700 more than the current top-of-the-range PC1512DD with colour monitor.

The inclusion of a multi-function internal graphics adaptor (MIGA) is the secret to allowing the connection of the new monitors. They give 16 colours from



a palette of 64 at a resolution of 640 x 352.

Also featured is an XT-style keyboard, light pen connector and 640k ram. There are no plans to alter any prices or delete models in the PC1512 range. On the contrary, the new model will be sold alongside the 1512s and is seen as enhancing the Amstrad PC range.

## From the Gremlin Press Releases

*Gremlin Graphics are up to their usual efficient standard in keeping their customers on the other side of the world up-to-date, through the pages of The Amstrad User, with what's cooking in their CPC software pot.*

### Gary Lineker's Superstar Soccer

A completely innovative and original genre of football game, the like of which has never been attempted before.

Endorsed by the UK star striker himself, Superstar Soccer features both strategy and arcade action. Select your team, adopt tactics then play the arcade game. Your role is that of centre forward and you must develop the goal scoring skills required by England's premier striker - heading, overhead kicks, accurate positioning and most importantly, getting that ball home!

*Release date: October 1987*

### Basil, the Great Mouse Detective

Walt Disney's latest lovable character, exclusively portrayed in a brand new adventure by Gremlin. Beginning in Basil's study, the basement of 221b Baker Street, Basil and his faithful bloodhound Toby must find their way to the dastardly Ratigan's hideout in their attempt to rescue poor Dr. Dawson.

Complete with clues, disguises, the baddies of the rodent underworld and set in some of London's most famous locations, Basil The Great Mouse Detective is quite simply elementary!

*Release date: November 1987*

## Updates from PCs

### Accountant Plus

Personal Computer Software in NSW have released Sage Accountant Plus.

Accountant Plus is an integrated accounting system designed for small business and will run on any PC/MS-DOS microcomputer.

It handles the debtors ledger, creditors ledger, general ledger, stock control and invoicing and features:

- Free format invoice design
- Powerful and flexible report generator
- Auditors utility
- Budgetary control
- Debt chasing and direct mail letters
- Sales and Purchase analysis
- Reports can be spooled to disc, displayed on screen or printer
- Open item ledgers
- Alphanumeric account references
- Password protection

At the release, the Managing Director of Personal Computer Software, Mr. John Perry, said the "Accountant Plus gives the small businessman all the facilities he needs to control his business

on a microcomputer at a reasonable price." Accountant Plus retails for \$599 including tax.

### Wordcraft

Since releasing version 3 of Wordcraft in February, its authors in the UK have been sifting through dozens of requests for new features sent in by Wordcraft users.

They have now released version 3.2 which contains 26 new features all of which were a direct result of the direct user requests. Although most of these new features are relatively minor in nature when compared with the huge list of powerful features that wordcraft offers the user, the authors feel that they were important enough to include.

John Perry commented that "a lot of these new features would only be understood by people already familiar with Wordcraft and their inclusion in this new release is proof of Wordcraft's author policy to listen to their customers and include their requests for new features where possible."

### Blood Valley

Gremlin lay before you the complete fantasy adventure in which you will strive against your opponent as well as the creatures and eerie characters of the fantasy world of Orb. The Archveult, a mighty warrior whose appearance alone is enough to terrify the stoutest heart, has decreed that you must be hunted down like an animal by his people - the Firedrake.

Your only chance of survival is to escape from the valley, but can you succeed armed only with resourcefulness and a strong will to live? Written by the authors of The Way of the Tiger.

*Release date: November 1987*

### Master of the Universe - the feature movie

HE-MAN, the most powerful man in the universe, has been entrusted with the power of Castle Grayskull and all of the wisdom of the planet Eternia, to defend the universe against evil lead by the villain Skeletor.

Gremlin in turn have been entrusted to produce a faithful reproduction of this

forthcoming exciting feature film, for home computers. Join HE-MAN in this classic good versus bad arcade adventure; HE-MAN's Sword of Power is fused with the combined wisdom and strength of all the ancient Eternian elders and this will aid you in your fight against such villains as Evil Lynne, the sorceress and Beast Man, the savage first lieutenant of Skeletor.

*Release date: December 1987*

### Amstrad announce new PC compatible Dot Matrix Printer

Our news (May '87) of "controlled product releases" from Amstrad proves correct with the DMP3160 being available in Australia in the next few weeks. It runs at 160 cps (or 40 NLQ) and features dot addressable graphics and standard Epson compatible command codes. This should allow it to operate directly with most software, including word processors, spreadsheets and graphics programs.



# Quintessential Quintette

Put another way, five reviews  
by Darren Robinson

## RED SCORPION Quicksilva

Cast in the role of commando and fighting from the well-equipped terrain based Scorpion Mk IV, the mission at hand is to eliminate the Necrons (super-power rivals) and to destroy all military and mining equipment. Civilian farmhouses naturally must be left untouched. All of these structures are represented by well drawn 3D line graphics.

Your combat capsule is equipped with weaponry such as standard cannon, armour piercing missiles, cluster bombs and a form of smart bomb. It has a defence system, as if that weaponry wasn't enough, which includes sonic stunners for paralysing enemy ships and a function that explodes enemy missiles. The Scorpion also has threat detectors to inform you of anything within range such as a Talanite mine, a weapon-armed alien or a building. The 'M' indicator means you're about to be mashed by a missile. Don't worry about having to search for ages to find the enemy - he'll find your craft fairly quickly, usually from behind and at first invisible.

Along the bottom of the screen are icons corresponding to letters on the keyboard. Most of them are for attack functions and the others are means of switching vision modes. There is a choice of 4 modes of vision through the combat visor. One mode is natural vision and the other three detect things invisible to the naked eye. This is one of the toughest things about the game - a temporarily invisible enemy in attack can knock out many defence shields before he is located. It is disappointing that the cassette inlay does not tell which keys operate which icons.

When you've had enough fighting you may request to be beamed up to the mother ship and the success of the mission will be shown on the screen. There are 2 other ways for the game to end - one is when the Scorpion's shield rating is reduced from 99 to zero, as a result of enemy fire. The other is court-martial from attacking anything of a civilian nature. Okay, so I've been guilty of bombing the odd farmhouse, but the same message often arose inexplicably after blowing up a hostile target. Most frustrating.

To make things tricky for the driver, the Scorpion has momentum so this causes imprecise handling when lining up a shot. Rolling into a rock formation makes you jolt and travel backwards.

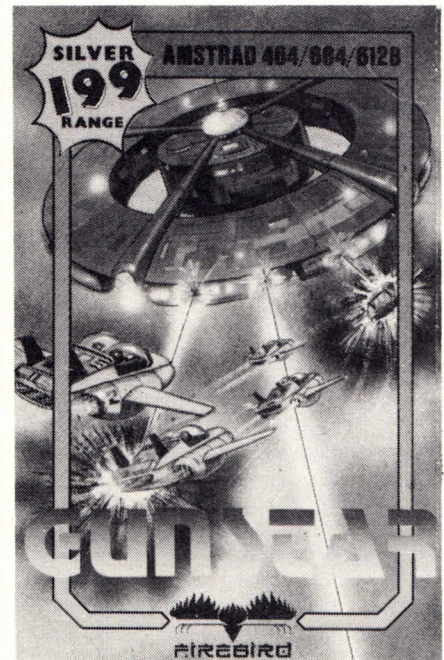
Between games there is a demonstration of everything to be encountered in the battle. Sound is average, there's a pretty good loader screen and a joystick is needed despite what the inlay says.

Overall I enjoyed Red Scorpion. It's good to drive such a dangerous vehicle around, even though the movement of things across the screen leaves a little to be desired and the continual court martial message is to the game's detriment.

## GUNSTAR FireBird/ISD - \$9.98 tape

In their subterranean moon base, researchers have produced the Pulsar fighters, collectively known as the Gunstar Fleet. Your mission as pilot of one of these craft is the destruction of alien forces and liberation of the Earth.

There are 5 stages to this Firebird budget game. Fighter stage - a Galaxian type situation in which its rather hard to miss the enemy. The ship can be moved horizontally or vertically. I



hated their bullets - just moving dots looking almost identical to the stars in the background. They attack in highly chaotic formations that must give their generals nightmares. Asteroid stage - once most of those aliens are dead (a couple always give up and run away) we play dodge the meteors, a la Scramble In neat columns they rain down and are very predictable. Alien command ship - what a silly pointless stage. This involves shooting at 6 static objects that hardly fire back. How can you lose? Alloy robot - ah! More static objects, but these fire more often, probably with all the ammunition they saved in the previous stage. Much more dangerous and don't overheat those lasers. Highly unimaginative graphics here. Docking stage - a very basic docking manoeuvre that won't bother anyone. The fighter receives extra fuel and is then returned to the alien fighters.



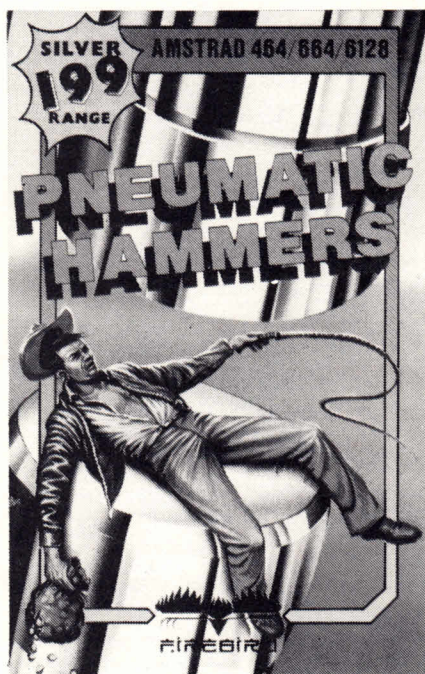
If your ship is destroyed, details are received of a new pilot, and although none of the stages are particularly tough, it can be most frustrating to be sent back to the beginning each time.

Sound is average, consisting of blips and explosions in all the right places. Documentation is adequate for this type of game but graphics are far from impressive. Movement of all spaceships is slightly jerky though still acceptable. I do like the nice touch of your Pulsar rolling to one side when moving left or right. A joystick or the keyboard may be used and keys are user definable; there's a high score table as well. The tape takes about 7 minutes to load - warning - persons viewing monitor during this period may fall asleep.

Gunstar is a standard space shootout that offers nothing new, but some may find it good for venting aggression after a hard day at the office.

**PNEUMATIC HAMMERS  
FireBird/ISD - \$9.98 tape**

Lee Valley gold research base has a bunch of pneumatic hammers gone out of control, causing massive rockfalls. They were brought in to place bridge pillars in the river bed but the plan went wrong when the electrical power



lever was broken off. Our hero, Red O'Blair, has the task of casting a golden lever before the rockfalls engulf the base.

The game begins atop a multi-level building, each floor having a different function in the task e.g. one floor has a furnace to melt gold, another has a store of metal detectors.

When Red exits the building in search of gold nuggets he must cross the river by jumping from pillar to pillar and timing his leaps to avoid the crushing pneumatic hammers. I was pleased to discover that being hit by a hammer merely results in losing some time, whereas the guy on the cassette inlay looks like he's about to be crushed into a pulp.

When the goldfield is reached your metal detector will indicate a nearby nugget. When some gold is obtained you may place it in a sack and continue searching for another. If there is a rockfall the detector is lost and Red must return to the building. There are six detectors altogether.

The next job is to weigh the gold and ensure it has a legal weight before placing it in the furnace. Depositing gold of the wrong size results in a loss of accumulated gold. To make things hard the scales don't display weight in digits, so some guesswork is needed to get a score initially.

Now some faults - the inlay states joystick or keyboard may be used, but this game is actually keyboard only. Another thing much worse - say 4 detectors are used during the game. Starting another leaves the player with just 2 detectors in store. Using 6 means the tape must be reloaded. The program fails to reset an important variable after the final score screen is displayed. Inexcusable.

Graphics in PH are about average, and everything that moves does so smoothly. Sound is fairly poor, because the continuous pounding of the hammers is annoying. There are few other sound effects.

Although the game is interesting enough to play, I found the logic in the weighing procedure to be a little obscure.

Of course with the detector bug, the program as it stands cannot be recommended.



**PARABOLA  
FireBird/ISD - \$9.98 tape**

Bouncing Bruce is a service droid on the cosmic energy grid and the poor fellow appears to be lost. It's up to you to help him escape.

Parabola could best be described as a slowed-down version of Q-Bert. Bruce does take his time springing around but this is all right, as no strange creatures follow every move you make.

Upon beginning the game we are faced with a diamond composed of many smaller diamonds. After choosing an adjacent shape to the starting point you are transported to another screen. Here Bruce, who is seen as a head on a spring, must jump around a 3D grid of cubes, some higher than others. By careful use of direction and bounce height you must collect energy discs and then go for the exit square.

But watch out! Much thought is required for this as misuse of jumping power may cause the droid to descend on a dangerous square or collide with a guard patrolling a certain area. Completing a grid successfully returns you to the initial screen where you choose another adjacent diamond. The long term objective is to progress from shape to shape (on this initial screen) until the exit is reached, by escaping the cube grid associated with each dia-



mond.

The graphics are a little above average for a budget game; sound effects are sparse except for the constant bouncing noise and as for gameplay Bruce is often slow reacting to a key being pressed. There are 4 levels of skill and the loader screen is very boring.

One complaint I have is that things don't work properly with a joystick ie. the program won't accept input from the fire button. This can be fixed by the redefine option - use the joystick instead of hitting keys.

From the Firebird Silver Range, Parabola can be recommended for those who enjoyed Q-Bert but prefer a more sedate pace with a few extra problems thrown in.

### TRAP Alligata/ISD - \$29.99 tape

'Energetically defend your planet, your people from a once peaceful ally'.

With that simple scenario we launch into a rather classy shoot 'em up game. The journey begins with a bird's eye view of a spaceship travelling at first through space, followed by a detailed scrolling landscape. Right from the start alien hordes come at you seemingly from all directions and fast reflexes are definitely required to escape unscathed. Then, when the landscape comes into view, the enemy changes to weird individuals that hang around and shoot very quick nasties in your direction.

Sound effects are in stereo, as is the great pre-game space music. This goes for, I kid you not, over 6 minutes before fading out and repeating; those with stereo speakers are in for a treat. The graphics are generally excellent and scrolling is first rate.

So with pictures and sound so good, how is the action? In a nutshell, very good. Initially fast and furious, using the right strategy will enable you to slow everything down to snail's pace and the ship can penetrate further. Sometimes spinners will be encountered which reverse left and right controls for 5 seconds; particularly dangerous when about to fly horizontally and there is a choice of forward speeds.

Once you get the hang of outwitting the aliens (there are a limited number)



there is the task of obtaining fuel and bombing small symbols called 'boats'. Successfully completing this stage takes us to the next section, to be tackled on foot, where a different bunch of aliens are waiting. Dying here, unfortunately still returns you to the very start of the space section.

A joystick is recommended to play Trap, although one hand is still needed

on the keyboard for smart bombs. Good use is made of the Amstrad's capabilities especially in relation to speed, with creatures and bombs flying around at a cracking pace.

Trap is definitely in the league of sophisticated 'blasting the aliens' games but its difficulty may be offputting to some people.

### Apologies . . .

First to Helen Bradley (and readers) who expected to see an article on SID and SuperCalc2 in this issue. We promise to publish it next month.

Second, to "The Lighthouse" players. If you get across the bridge and into the cave, you'll probably get the error message "Improper Argument in line 450". This is because "n" exceeds a value of 255 which is illegal for an ON GOTO. This fact is not mentioned in the 464 manual but does appear in the 6128 manual. To fix it, add the underlined section below to line 450.

```
450 PRINT: IF n>255 THEN 480 ELSE ON GOTO etc.....
```

### . . . and Thanks

To all the sharp-eyed PCW readers who took the time to write in and inform us of the typing error in line 520 of Pull Down Menus (June '87). The line should read: 520 PRINT FNat\$(x1,y1+1+ch,rev\$+ch\$(ch)+nrm\$):RETURN Geoff Vennells has also suggested that there should really be 5 lines at the end of the program as follows:

```
490 IF ASC(in$)=31 AND ch>1 THEN GOSUB 530:ch=ch-1:GOTO 450
500 IF ASC(in$)=30 AND ch<>op THEN ch=ch+1:GOSUB 520:GOTO 450
510 GOTO 460
520 PRINT FNat$(x1,y1+ch,rev$+ch$(ch-1)+nrm$):RETURN
530 PRINT FNat$(x1,y1+1+ch,rev$+ch$(ch)+nrm$):RETURN
but would like some advice on how to use the program within another.
Can anyone come to Geoff's aid?
```



# Restore

## A file recovery program

from Joseph Elkhorne

So it's three o'clock in the morning and you've just finished the epilogue of *The Great Australian Novel*. In a fit of fatigue, you make a wrong keystroke and your word processor eats the file!

If you follow good operating practises, regularly saving files every ten minutes or so as you work on them, not a great deal is lost. But, like most of us, in the heat of passion, you probably forget all about mundane matters. So four or five hours work is down the drain, and you're too groggy to recall the exact nature of what should have been deathless prose. All is not lost, however.

The wizards of CP/M probably realised this sort of thing would happen, when they wrote the "erase" function. They call it dynamic file allocation - I call it a saving grace. To be sure, it is quicker to write E5 for the file in question into the disc directory than to physically erase the bytes concerned.

For our purposes, it means that a lost file is not really lost. **PROVIDED THAT NOTHING ELSE IS WRITTEN TO THE DISC!**

If it is, the dynamic nature of the file handling will look for the first available space in the directory - which is the first E5 byte it comes to from the top. If that happens, your precious file is gone forever.

If, however, you use this restore program, the erased file will be retrieved from Limbo. It was written on the Amstrad 6128 operating under CP/M Plus (3.0), and works on files of a single extent. More than that, the author does not claim.

An explanation of the directory system is perhaps in order. A file's name, attributes, and location on the disc is held in a portion of a directory record, namely thirty-two bytes, called a file control block. The first byte either has the data 00 in it for a valid file on the current drive, or the data E5, signifying an erased file. E5 is the data written to each byte in formatting.

The next eight bytes are the filename, immediately followed by the three byte extension or filetype. Any characters not filled out by the user are padded with 20, the ASCII space character. Next is a byte called "extent", which is equivalent to up to 128 records of 128 bytes.

Now come two bytes which the system uses for its own mysterious purposes. One learns that the second of these must be set of zero by the user. This is taken care of in Restore.

One more byte carries the information of the number of records used in the current extent.

Finally, sixteen bytes hold the "allocation units", or addresses of physical sectors on the disc. In these, the file data

actually resides.

A file can obviously be larger than the information contained in one directory entry; this is where the extent comes into play. There are also four additional bytes which are calculated by CP/M, which follow the directory record, but we need not go into these complications for our purposes. Suffice it to say that the program presented herein will deal adequately with a simple file.

In operation, Restore is easy to use. Once restore.com is created, type restore and follow directions. When it loads, it will tell you to change discs, if the file you wish to retrieve is on another disc. This will surely be the case. There is no problem in swapping discs in CP/M Plus, as with earlier versions. Those using 2.2, as supplied by Amstrad, will need to add the System Reset function to allow a disc swap to be made within the program.

With the disc swap done, one need only hit Enter to continue operation. Restore then reads the first directory record and prints out hex values and ASCII equivalents for four filespecs. Entering a number here will try to restore the file; otherwise, a Control-C will exit, or an ordinary enter will continue reading names in the directory.

Internally, Restore pads out the file control block with the question mark wildcard symbol, so that the system knows to examine every directory entry. Four names are dumped to the program buffer for printout on screen and potential transfer to the file control block (FCB).

A filespec entry in the buffer consists of 32 bytes, as described above. Internally, CP/M will return either a number from zero to three to describe the placement of a filespec within a record - or FF for no file, in which case an automatic exit from the program commences.

If the user enters a number from one to four, the appropriate directory data is transferred to the FCB; a system call to the make file function creates a duplicate directory entry of the original; the file location data is transferred and the re-created file is closed, followed by a warm boot back to CP/M. The latter function is necessary to set the re-created locations into an area in the directory called a bit map.

A recommendation is definitely in order to use a "scratch" disc to get this utility up and running. A separate backup of the CP/M Plus and utility disc will be useful, as the files enable one to boot CP/M, and use the built-in and transient functions to complete all necessary tasks.

If you haven't got BASIC, this is a good place to start. Sooner or later you will goof and need this tool.

For those who, like myself, only worked with CP/M version 2.2 previously, some adaptation of technique is necessary. The procedure is simply to:

1. Create restore.asm using ED
2. Convert this text file using MAC  
(fancier than CP/M 2.2 ASM)
3. Followed by HEXCOM  
(which is like CP/M 2.2 LOAD)
4. Type in restore and hope for the best!



```

; PROGRAM RESTORE.ASM
; RETRIEVES ERASED FILE IF POSSIBLE
; (C) J.L. ELKHORNE
; DEBUGGED - 26/4/87
; *****
0005 =      BDOS   EQU    05H    ; THE HOOK
0001 =      CONIN  EQU    01H    ; CONSOLE CHARACTER INPUT
0002 =      CONOUT EQU    02H    ; CONSOLE OUTPUT
005C =      FCB    EQU    5CH    ; FILE CONTROL BLOCK
0080 =      DMA    EQU    80H    ; BUFFER FOR ONE RECORD
0009 =      PRINTS EQU    09H    ; PRINT A STRING
0010 =      CFILE  EQU    10H    ; CLOSE FILE FUNCTION
0011 =      FSRCH  EQU    11H    ; SEARCH FOR FIRST FUNCTION CALL
0012 =      NSRCH  EQU    12H    ; SEARCH FOR NEXT FUNCTION CALL
0016 =      FMAKE  EQU    16H    ; MAKE FILE FUNCTION
;
0100        ORG    100H
0100 210000 LXI    H,0      ; WE SAVE OLD STACK POINTER
0103 39      DAD    SP      ; FOR SYSTEM RETURN
0104 22C102 SHLD   OLDSP
0107 31E602 LXI    SP,STKTOP    ; AND MAKE USER STACK
;
; FILL THE FCB FILESPEC HERE
010A 060B    MVI    B,11D    ; LENGTH OF FILENAME AND TYPE
010C 3E3F    MVI    A,3FH    ; THE QUESTION MARK CHARACTER
010E 215C00 LXI    H,FCB      ; POINT TO START OF FCB
0111 23      FILL: INX    H      ; AND ADVANCE TO 1ST CHR POS'N
0112 77      MOV    M,A      ; POKE ? INTO IT
0113 05      DCR    B      ; ONE LESS
0114 C21101 JNZ    FILL      ; DO MORE IF NOT FINISHED
;
; PROMPT FOR DISK CHANGE IF REQUIRED
0117 114702 LXI    D,PROMPT    ; TELL THE USER WHAT TO DO
011A 0E09    MVI    C,PRINTS
011C CD0500 CALL   BDOS
011F CD0202 CALL   PCRLF      ; AND SCROLL
0122 0E01    MVI    C,CONIN
0124 CD0500 CALL   BDOS      ; WAIT FOR USER RESPONSE
;
0127 CD0202 FIRST: CALL  PCRLF      ; SCROLL
012A 0E09    MVI    C,PRINTS  ; PRINT HEADER
012C 116B02 LXI    D,FMESS
012F CD0500 CALL   BDOS
0132 CD0202 CALL   PCRLF      ; SCROLL AGAIN
;
0135 0E11    MVI    C,FSRCH    ; AND READ FIRST DIRECTORY RECOR
D
0137 115C00 DO:   LXI    D,FCB
013A CD0500 CALL   BDOS
013D 32C302 STA    DFLAG      ; PRESERVE DIR. CODE
0140 CDCB01 CALL   PBUFF      ; PRINT DMA BUFFER
;
; CHECK USER RESPONSE - ALSO ENTRY FOR NEXT SEARCH
0143 CD0202 DNEXT: CALL  PCRLF      ; SCROLL
0146 0E09    MVI    C,PRINTS
0148 117C02 LXI    D,MORDIR    ; TELL USER HE CAN GET MORE
014B CD0500 CALL   BDOS

```



```

014E 0E01          MVI      C,CONIN          ; GET HIS RESPONSE
0150 CD0500        CALL     BDOS
0153 FE03          CPI      03H           ; IS IT CTRL-C?
0155 CAC401        JZ       DONE           ; GOODBYE IF SO
;
; FIND THE PROPER FILENAME
0158 FE31          CPI      31H           ; IS IT 1?
015A C26301        JNZ     TWO           ; NO, TRY NEXT
015D 218100        LXI     H,81H         ; FIRST ADDRESS
0160 C38101        JMP     BLOCK
0163 FE32          TWO:    CPI      32H           ; IS IT 2?
0165 C26E01        JNZ     THREE        ; NO, TRY AGAIN
0168 21A100        LXI     H,0A1H       ; SECOND ADDRESS
016B C38101        JMP     BLOCK
016E FE33          THREE:  CPI      33H           ; IS IT 3?
0170 C27901        JNZ     FOUR        ; NO, GO
0173 21C100        LXI     H,0C1H       ; THIRD ADDRESS
0176 C38101        JMP     BLOCK
0179 FE34          FOUR:   CPI      34H           ; OR IS IT 4?
017B C2B801        JNZ     DLOOP        ; IF NOT, LOOK NEXT DIR
017E 21E100        LXI     H,0E1H       ; FOURTH ADDRESS
;
; BLOCK SHIFT BUFFER FILESPEC TO FCB
0181 22C402        BLOCK:  SHLD    FDIR          ; SAVE POINTER FOR LATER
0184 060B          MVI     B,11D         ; NUMBER OF BYTES FOR FILESPEC
0186 115D00        LXI     D,FCB+1      ; POINTER
0189 CD3C02        CALL    BLOCK1
;
018C AF           XRA     A             ; ZERO ACCUMULATOR
018D 215C00        LXI     H,FCB        ; FIRST BYTE OF FCB
0190 77           MOV     M,A          ; MAKE CURRENT DRIVE
;
0191 0E16          MVI     C,FMAKE      ; CREATE 'NEW' DIRECTORY ENTRY
0193 115C00        LXI     D,FCB
0196 CD0500        CALL    BDOS         ; WRITE FILESPEC TO DIRECTORY RE
CORD
0199 AF           XRA     A             ; CLEAR ACCUMULATOR
019A 216A00        LXI     H,6AH        ; S2 BYTE IN FCB
019D 77           MOV     M,A          ; ZERO IT!
;
; TRANSFER REST OF ORIGINAL FILE INFO FROM BUFFER
019E 0611          MVI     B,17D         ; REMAINING BYTES OF DIR FCB
01A0 110E00        LXI     D,0EH        ; LOAD OFFSET
01A3 2AC402        LHLD   FDIR          ; BASE ADDRESS OF DIR FILESPEC
01A6 19           DAD     D             ; INCREASE TO RC
01A7 116B00        LXI     D,FCB+15     ; START AT RECORD COUNT BYTE
01AA CD3C02        CALL    BLOCK1
;
; CLOSE FILE AND EXIT VIA DONE
01AD 0E10          MVI     C,CFILE      ; CLOSE FILE FUNCTION
01AF 115C00        LXI     D,FCB
01B2 CD0500        CALL    BDOS
01B5 C3C401        JMP     DONE         ; EXIT VIA WARM BOOT
;
01B8 3AC302        DLOOP: LDA     DFLAG    ; RETRIEVE DIR. CODE
01BB 3C           INR     A             ; A=0 IF NO FILES
01BC CAC401        JZ      DONE

```



```

01BF 0E12          MVI      C,NSRCH          ; SEARCH FOR NEXT FUNCTION
01C1 C33701       JMP      DO              ; BACK FOR MORE
;
01C4 2AC102       DONE:   LHL      OLDSP          ; RETRIEVE OLD STACK POINTER
01C7 F9           SPHL
01C8 C30000       JMP      0              ; WARM BOOT TO FIX BIT MAP
; *****
; PBUFF - SUBROUTINE TO PRINT DMA CONTENTS IN HEX
;
; SET ADDRESS AND INITIALISE COUNTERS
01CB 218000       PBUFF:  LXI      H,DMA          ; RECORD ADDRESS IN HL
01CE 0E08         MVI      C,8              ; COUNTER FOR NUMBER OF LINES
01D0 CD0202       CALL     PCRLF           ; SCROLL
;
; AT START OF EACH LINE
01D3 0610         NULINE: MVI      B,16D        ; SET NUMBER OF BYTES PER LINE
01D5 CD0202       CALL     PCRLF           ; SCROLL FIRST
;
; NEXT THE BYTES FOR THE LINE
01D8 56           NUBYTE: MOV      D,M          ; HL POINTS TO THE BYTE
01D9 CD1302       CALL     PBYTE          ; SPIT IT OUT
01DC CD0D02       CALL     PSPAC          ; AND SEPARATE FROM NEXT
01DF 23           INX      H              ; BUMP POINTER
01E0 05           DCR      B              ; FINISHED THIS LINE?
01E1 C2D801       JNZ     NUBYTE          ; DO MORE IF NOT
;
; NOW PRINT LINE OF BYTES AS ASCII
01E4 11F0FF       LXI      D,0FFF0H        ; EQU -16 DECIMAL
01E7 19           DAD     D              ; SUBTRACT IT FROM HL PAIR
01E8 0610         MVI      B,16D          ; AGAIN SET NUMBER OF BYTES
01EA 7E           ASKER:  MOV      A,M          ; GET MEMORY CELL AGAIN
01EB FE1F         CPI      1FH           ; UNPRINTABLE?
01ED F2F201       JP      ASC            ; NO, SO SPIT IT OUT
01F0 3E2D         MVI      A,2DH          ; YES, SO MAKE ARBITRARY SIGN
01F2 CD2F02       ASC:    CALL     PRCHR          ;
01F5 23           INX      H              ; GET NEXT
01F6 05           DCR      B              ; COUNTER ONE LESS
01F7 C2EA01       JNZ     ASKER          ; LOOP BACK IF NOT DONE
;
; NOW THE LINE IS DONE
01FA 0D           DCR      C              ; ALL THE LINES FINISHED?
01FB C2D301       JNZ     NULINE         ; NO, SO DO MORE
01FE CD0202       CALL     PCRLF          ; SCROLL WHEN DONE
0201 C9           RET                    ; BACK TO MAIN PROGRAM
;
; SUBROUTINE TO PRINT A CR AND A LF
0202 3E0D         PCRLF:  MVI      A,0DH          ; THE CARRIAGE RETURN
0204 CD2F02       CALL     PRCHR          ;
0207 3E0A         MVI      A,0AH          ; THE LINE FEED
0209 CD2F02       CALL     PRCHR          ;
020C C9           RET
;
; SUBROUTINE TO PRINT A SPACE
020D 3E20         PSPAC:  MVI      A,20H          ; ASCII SPACE CHARACTER
020F CD2F02       CALL     PRCHR          ;
0212 C9           RET

```



```

;
0213 7A          PBYTE:  MOV    A,D          ; SUBROUTINE TO PRINT 2-DIGIT NUMBER FROM D
0214 CD1C02      CALL    PRINT1        ; THE LEFT HAND DIGIT
0217 7A          MOV    A,D          ; THE RIGHT HAND ONE
0218 CD2002      CALL    PRINT2
021B C9          RET

;
021C 07070707    PRINT1: RLC!RLC!RLC!RLC    ; BUMP HIGH NIBBLE TO LOW
0220 E60F        PRINT2: ANI    0FH          ; MASK UPPER NIBBLE
0222 C630        ADI    30H          ; MAKE IT ASCII
0224 FE3A        CPI    3AH          ; BIGGER THAN DIGIT?
0226 DA2B02      JC     PDIG         ; GO IF NOT
0229 C607        ADI    7H          ; ADD BIAS FOR ALPHA
022B CD2F02      PDIG:  CALL    PRCHR        ; PRINT THE HEX DIGIT
022E C9          RET

;
022F C5D5E5      PRCHR:  PUSH B!PUSH D!PUSH H    ; SAVE REGISTERS
0232 0E02        MVI    C,CONOUT      ; AND PRINT CHARACTER
0234 5F          MOV    E,A
0235 CD0500      CALL    BDOS
0238 E1D1C1      POP H!POP D! POP B
023B C9          RET

;
023C 7E          BLOCK1: MOV    A,M          ; ON ENTRY, HL HOLDS 1ST DIR BYTE ADDRESS
023D EB          XCHG                    ; LOAD ACC. WITH DIR INFO
023E 77          MOV    M,A             ; SWAP POINTERS
023F 23          INX    H               ; STORE THE DIR INFO
0240 13          INX    D               ; BUMP BOTH
0241 EB          XCHG                    ; POINTERS
0242 05          DCR    B               ; SWAP BACK
0243 C23C02      JNZ    BLOCK1          ; ONE LESS
0246 C9          RET                    ; ONLY FINISHED ON ZERO

;
0247 4368616E67PROMPT DB 'Change disk if required, then ENTER$'
026B 5365617263FMESS  DB 'Search directory$'
027C 2A2A20496EMORDIR DB '** Input' 1 to 4 for Filename, or'
029C 0A0D456E74       DB 0AH,0DH,'Enter for next or Ctrl-C to quit: $'

;
02C1             OLDSP  DS    2
02C3 00          DFLAG  DB    0
02C4             FDIR   DS    2
02C6             DS     20H

STKTOP:
;
02E6             END

```

*A bibliography is included here. The study of sundry aspects of CP/M will reward the diligent programmer. I have no doubt some enterprising reader will find a way to improve my restore program in no time at all!*

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Indianapolis, Indiana, U.S.A. 1983

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Hasbrouck Heights, New Jersey  
1984, 1982



# The Advanced OCP Art Studio

Richard Monteiro reviews Rainbird's improved art package.

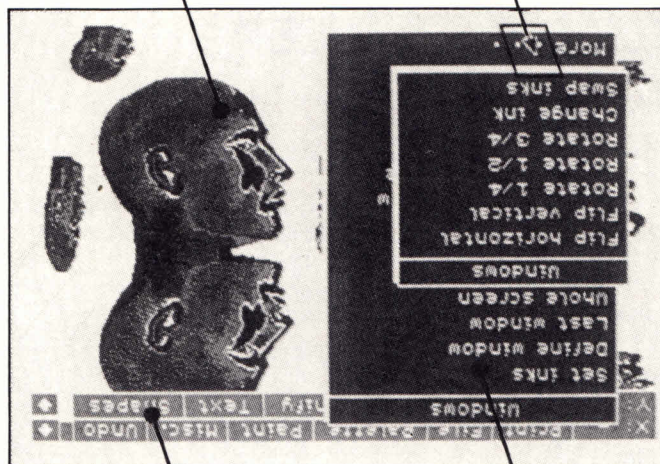
Slick packaging does not always contain the promised land. When it's from Rainbird this thought doesn't even enter your mind. Quality is assured. The Advanced Art Studio is no exception. But is it worth forking out \$79.99?

A review in the January issue of the original Art Studio showed that the main gripes were the absence of a Mode 0 drawing facility and the presence of Lenslok. Well, Rainbird has incorporated Mode 0 drawing as well as a plethora of goodies and improvements. And as for the Lenslok system - which repelled users as well as pirates - Rainbird has replaced it with a new system: the screen flicks into view and you are requested to enter a word from a particular sentence from the manual. Well done, Rainbird: a system that won't get up anybody's nose.

The Amstrad is capable of producing 27 colours. Sixteen of these can be displayed in Mode 0, four in Mode 1 and two in Mode 2. An inkpot can have any one of the 27 colours. These colours can be changed at any time. Simple anima-

A pull-down menu pulled down

Command line



Your pointer or cursor

Your picture is still underneath

tion effects can result when using this ink-swapping or palette-switching effect. Rainbird has included a palette-switching function within the Advanced Art Studio. Each inkpot can have up to 12 colours associated with it. You define the speed at which the colours cycle through the inkpots. The disc includes a demo picture that uses this cycling effect - impressive. After flicking quickly through the manual I was under the impression that animation sequences were possible. Closer scrutiny revealed it was just spivved-up palette-switching - a pity.

From the Paint menu you have 16 pens

of various shapes and sizes at your disposal. To use the pen as an eraser, set it to the background colour and draw over the unwanted bits. Eight spray cans are available, varying in spray density and flow rate. An art package wouldn't be an art package without a brush option. When using the brush you must select, from a menu of 15, the pattern with which you wish to paint. If none of the patterns take your fancy, load up another set from the disc. Still not satisfied? Create your own by entering the pattern editor. Patterns can be single-, double- or multicoloured.

Life is made as simple as possible inside the editor: horizontal and vertical flip, rotate at a multitude of angles, scroll the contents of the pattern box in any direction and a useful "undo" facility.

Under the Misc. heading is a smattering of miscellaneous options. Come here to alter screen mode, view the entire screen (without the command lines), clear the screen, choose your input device (joystick, mouse etc.) and you can even find out which version of Art Studio you own. An intriguing option is

## Wimps in general

Windows, icons, mice (or pull-down menus) and p. The p is subject to much controversy here: pointers, programs and pigs have been some of the suggestions. The others are not printable and not all begin with p. Whatever you wish the p to stand

for, Wimps are hip and here to stay. Both versions of Art Studio make extensive use of windows, menus and icons; the mouse is optional. The Wimp environment is friendly, fast and fun. It also avoids heavy use of the keyboard.



protect inks. This enables you to select or deselect (depending which way you look at it) inks. These protected inks can not be overwritten - even when you try to paint or draw over them. Excellent results can be achieved using this powerful function.

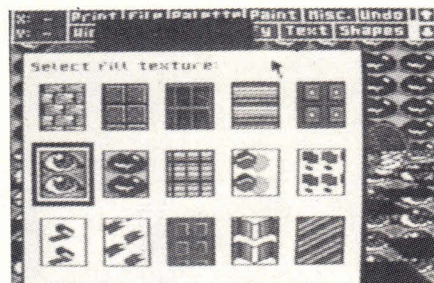
Imagine you use the fill routine. Things go horrendously wrong. Just one pixel out and everything gets obliterated. Luckily there is a command with clout: Undo. Using this will restore your picture to its former glory - and it works every time. The trick is that two screens are held in memory. One holds the current picture; the other holds the screen as it looked before you issued the command (in our example, "fill").

## Windows

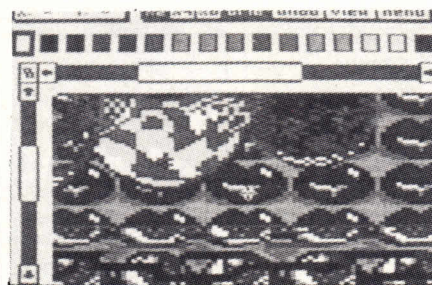
A few clicks from your input device is all that it takes to define a window. After that you can rotate, compress, enlarge, copy, flip, re-scale or copy it. That is the basic side of it. To complement these features you can add unbelievable merging features: you can OR-, XOR- or AND-merge, smear (which allows you to paste the window many times, giving a paintbrush effect). It is impossible to describe all the functions fully. Once you start playing around with windows there is a chance you will use nothing else. Look at the screenshots to see what can be done - even that is just skimming the surface.

The fill routine used in the Advanced Art Studio is undoubtedly the most intelligent. As long as the object or area you wish to fill has a continuous outline, there's no problem. If there is a break in

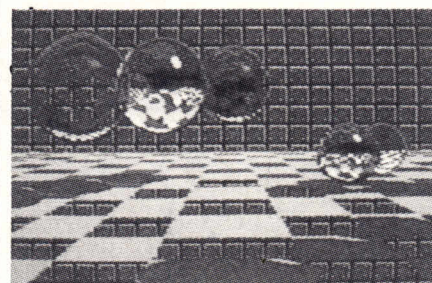
the outline, the fill will leak out and probably ruin your picture. Don't worry if this does happen as you can always Undo. There are several fill-types: solid, over, textured, wash. Solid- and over-fill will cover the area in the selected foreground colour. You can fill an area



▲ Which texture will you choose?



▲ MAGNIFY blows it up



▲ The complete screen

with a pattern using textured fill. Some very nice touches can be added to pictures using this - even more so if some of the inks on the screen are protected: the fill does not affect them, passing underneath instead. There is a selection of patterned fills which you can re-design using the pattern editor. The final fill possibility is wash texture. This versatile feature allows you to paint directly with a pattern. In short, it allows texture to be overlaid onto one another.

For close inspection, choose the Magnify option. Three levels of magnification are available: x2, x4 and for fine detail indeed, x8.

Parts of Pagemaker have crept into the Advanced Art Studio. Text can be added to your designs in a variety of styles and sizes. The standard Amstrad font is present, with further fonts on the disc. You could always design your own characters or fonts with the font-editor. Fonts can be saved and then used from within Basic - handy. Other effects can be added such as bold, slant and kerning (adjusting the spacing between characters), or you could print them sideways down the screen. Unlike Pagemaker, though, you can't pull text in from a file on disc.

No art package is complete without the obligatory shape menu. This one has all the standard shapes - rectangle, circle, ellipse, line and dot - plus some fancy shapes: filled circles and ellipses, elastic shapes, rays.

A normal CPC screen consists of 25 lines. The Art Studio takes three of these lines for its own use as status or command lines. Your screen is not limited by this (unlike Pagemaker, for example) as you can scroll the screen and bring hidden lines into view. By moving a pointer (or cursor) across the screen you can select one of the many options from the top command line and pull down its more detailed menu.

Moving from left to right across the command line, the first option is Print. From the pull-down Print menu you can produce a hard copy or dump of the whole screen or part of the screen (a window). You'll need a dot-matrix

## What you need

The original Art Studio was restricted to 6128 machines: 128k was needed for the program and the screen. Our review in January incorrectly stated that it would also work if you had a 64k expansion and disc drive on either a 464 or 664. This time we've got it right. The Advanced Art Studio works with any CPC machine as long as it has a disc drive and total of 128k of ram to play with. That includes 464 and 664 users with the DK'Tronics expansion ram (or equivalent).

## Art Studio versus Pagemaker

If you're delighted in Pagemaker's features, when you use the Advanced Art Studio you may notice all the improvements or additions are similar to the AMX package. The two programs have different functions. Pagemaker is for those trendy people who want to keep up with the latest buzz in computer software, desktop publishing. Art Studio is for those with artistic flair. However, now that it incorporates many text-handling routines, it looks as though it may steal some of Pagemaker's thunder.



printer to use this facility: any model using standard Epson codes, such as the Amstrad DMPs. If you have a non-standard printer and get on fairly well with it, you could try to write your own printer-driver. The manual describes the procedure.

Various sizes of printout are available. Independently adjustable horizontal and vertical scaling factors enable you to create the perfect dump. Physical dimensions of a dot vary from printer to printer, so a certain amount of fiddling is necessary till you get it right. You can also print pictures sideways and in any position on the page. Stipples or dot-arrangement on the printer represents the different colours on the screen. Darker colours will have a denser dot-pattern. A nice effect is that as the picture data is sent to the printer it is echoed to the screen.

#### Compressed screens

There is nothing startlingly new in the File department. The only addition is the

ability to compress screens before saving. Minimum reduction in file size is 40%. when loading back a compressed screen there is no need to inform Advanced Art Studio: it knows. As well as the screen you can save the current palette. from other menus, you have the option to save character fonts, patterns and windows. Rudimentary disc commands - cataloguing and erasing - are also available.

Interesting effects can be achieved when using the merge facility: the current screen contents combine with the new picture resulting in bizarre effects.

#### Conclusion

If you thought your current art package was complete, think again. The Advanced Art Studio is amazing. You'll want to use it to create pictures. Even if you're not artistic you will be surprised at what you can achieve. Its simplicity hides many complex functions. Some you may use only once. As for the

others, you'll wonder how you ever managed without them. Design utilities have come a long way since the days of Easyart. And it's all thanks to companies that care (although I'm a bit cynical about motives for "advanced" or "plus" packages that abound - I suspect they're planned well in advance!). The Advanced Art Studio is a powerful tool with a down-to-earth price and an easy-to-use command structure. Recommended.

#### Price and Upgrades

If you lived in the UK, I guess you could pop in to Rainbird at Wellington House, Upper St. Martins Lane, London WC2H 9DL, thrust £10 in their hands and get an upgrade to your original Art Studio package. Unfortunately this upgrade appears not to be available in Australia. The complete package (disc only) is imported by ISD. It will work on a 6128 or a 664 with an expansion ram or a 464 with a disc drive and an expansion ram. It will cost you \$79.99



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# Random Access Database

Reviewed by Nick Sarafoudis

One of the major computing flaws of the Amstrad CPC machines has been the inability to handle simple Random Access Filing even when equipped with disc drives. The only way random access data handling was possible was if the program was written entirely in CP/M. Most people like myself totally despise the CP/M operating system for its 'User Hostile' environment, lack of graphics and being a totally inflexible system as far as programming is concerned.

Now, along comes a database, written in BASIC, and claims to have Random Access facilities, which is able to access, in theory:- 9 Mbytes (nine million bytes) of storage memory! Or to those who think of k rams; 9 Mbytes equals approximately 8800k of disc storage. Now this might sound as unrealistic as a rooster laying golden eggs, but if you know what Random Access is all about, then it is not such a far fetched claim.

## What is Random Access

The Amstrad machines have a file handling system called SEQUENTIAL ACCESS. This means that even the simplest data handling programs have to load all the data information from disc, manipulate it and finally save it all back to disc. In other words, all the data is in one file and that file has to be loaded into the machine all at once, as if

the file is a whole program itself. Now this may seem an easy concept to understand, but the program is obviously restricted by the amount of free memory space available, and the amount of data it can store.

RANDOM ACCESS on the other hand is a different system altogether. The file does not have to be loaded all at once. Instead only the relevant data selected will be loaded, manipulated and then saved to disc. This is slightly slower in operation, but it greatly improves the storage capacity of a program. If for example, you would use a whole disc for data storage, then 178k would be used for data storage, while the program can use the machine's memory for other purposes. Therefore Random Access Database would use 182272 bytes for data storage on the one disc!

Minerva Systems have come up with a database, which uses random access file handling, so it's not limited by the available memory of the machine, but rather the storage capacity of the disc. Called simply RANDOM ACCESS DATABASE, it is by far the most powerful database available for the CPC series, that I know of. And believe me, I've known quite a lot of databases in my life.

## The Program

When I first received the package, I thought that this was just another database for the Amstrads. At first glance, the program comes complete in a plain pink cardboard box, with a 32 page manual and one disc, it was not impressive. Inserting the disc into my trusty Arnold, I vowed that if this database is just the same as any other.... out it goes. That was two weeks ago. One hour into the program and I was rapt. This is THE DATABASE. Personally, I've never seen anything like it, a

flexible powerful database, that allows your imagination to manipulate data in any way you choose.

Minerva have managed to produce random access facilities by incorporating some very clever machine-code programming, through RSX's (Resident System Extensions). And by subdividing the database into sections of small programs which can be used independently or together, the results allow far more flexibility and extra memory on-board for the program to use.

## Features

The difference between Random Access and all other CPC databases is in its power and flexibility. No other databases available for the Arnold on the market can come close to Random Access. Here are some features which prove how powerful Random Access really is:

- Ability to store 6000 records, with up to 1500 characters per record in a maximum of 40 fields. (If you have a 464 or 664 but do not have a memory expansion unit the maximum number of records is reduced to 2970).
- Produce card layouts to your specific needs, allowing both 40 and 80 column text, to blend together on one screen, enabling highlighting of specific data. Layouts are created with the User simply typing the information wherever it is required, therefore the record may be seen as it is designed. And you are not limited by the screen, the card may be scrolled to allow more information to be entered.
- Extensive calculation facilities for both numeric and string manipulation using all the standard BASIC expressions (LEFT\$, RIGHT\$, MID\$, SIN, COS, TAN etc). In fact all the expressions in BASIC are supported and all



can be defined by the User in any way possible. Also included is the ability to calculate a set of fields using a defined set formula and storing them in a separate field, a date system to stamp your data and a complex printing format system. A good use I can think of for these features, is a PAYROLL or COSTING SYSTEM, even an Income Tax assessment database.

- A powerful User definable sort system, similar to the above calculation facilities feature is also included. Conditional sorting in ascending or descending order is supported and available on all fields.

- Unlimited printing formats including definable card spacing, margins compaction etc.

- Rolling browse facility allowing more than one record to be displayed on screen, with specified data highlighted on a card display.

- Because of Random Access, you can produce multiple card layouts and use them within one file. For example, if you wish to produce a mailshot, you would design a card similar to a mailing label, and only the relevant information of data will be displayed when called up and printed. Then if you wish to produce a complete listing of all your data, another card layout could be called up which displays all the data and proceeds to print. This might all sound complicated, but once you start experimenting you'll soon know what I mean. This facility opens up new features which the User can utilize in whichever way he/she chooses. You can produce your own Stock Inventory Control System or design a genealogical database. Output player statistics with one card, and club financial standing with another.

These are some of the main features offered, but by no means the only ones. To explain all the features will require something short of a manual!

#### About the Manual

The manual comes neatly presented in a stapled 32 page booklet. Inside, a table of contents at the front, as well as an index is provided in the back. The manual is divided into two sections. First is the EXPERIMENTAL SECTION which is designed to be used with the

program running. The idea is to experiment with the database, going through the basics, and generally giving you 'hands-on' experience.

The second section goes through the entire functions available within the database, and is mainly designed to be read after you are familiar with the experimental section.

In my opinion, the manual serves its purpose well although in some areas, the information is all too vague to understand. With time and patience though, you can master this complex piece of software and create that 'special database' you've always

wanted, but never found the power to use.

**RANDOM ACCESS DATABASE is a product of Minerva Systems and is available from AMSNET INTERNATIONAL at \$159.95**

**It is suitable for a CPC6128, 664 or 464 with a disc drive.**





# Account for yourself

The first of a three part series by Ian Berry exploding the myths and showing how easy accounting can be.

Now the affordable computer has arrived, 'smaller' businessmen are seeking the benefits that folk-lore suggests the 'big boys' get. It can be tempting to go over the top and buy a fully fledged accounts-cum-stock control package, but is that really the right thing to do? Our new three part series starts this month, which takes some of the mystique out of accounting methods.

Until recently computers were only bought by large firms and were so expensive that only the 'top man' could authorise their purchase. The people who had to use them had little say in the matter. This led to a lot of 'misapplications' and since it takes a big man to admit his mistakes, it took a long time to put this right - indeed many companies still haven't!

There is a risk that new microcomputer users might make the same mistakes, for the same reason - inadequate information. It is firmly embedded in legend that computers can do anything, and do

it more easily and accurately than humans. But... it needs a human being to write the program to tell the computer what to do. Programmers, naturally, are specialists in programming. They are unlikely to be small businessmen, and even less likely to have that combination of accounting and small-business knowledge needed to write programs that will do exactly what we want.

The small businessman is an expert in his business, which means that he is unlikely to be expert at either accounting or programming. So it is easy to be misled by the optimistic claims of the blurb in the adverts, just as it was for managing directors to be misled by the smooth-talking, silver-tongued salesman with one eye on his commission

What is the solution? No way can everyone who buys a computer learn to be an accountant - what would that do for accountants? Anyway, you should be too busy using your special skills running your business to spend time on boring old accounting!

Computers are not particularly good at accounting either. Early business computers were expensive and had to earn their keep. They are best at rapid calculations, but accounting needs more recording than calculating so programmers concentrated on things like stock control which used the calculating skills more cost-effectively. Accounting was left as a sort of 'encore'; there was never much effort put into writing programs for computer accounting, so computers now only do what used to be done by hand, but a little faster. Not all accounting programs even do that particularly well!

## The arm of the law

The object of accounting is (and always has been) to present information about the business in a sufficiently pre-

digested form for the busy owner to understand what is going on. This means the records must be kept up to date and in an easily understood form.

The trouble with accounting is that it looks difficult and complicated (how else would we accountants make a living?) because it must work in complex as well as simple situations. It is, however, possible to cut it into bite sized chunks that are easy to digest. By combining the right chunks, you can tailor a system for any particular set-up.

What is 'adequate' when it comes to accounts? There is no compulsory 'set of books' - the law has nothing to say about the records of sole traders or partnerships. It is only when it comes to limited companies that the Companies Acts require that "adequate books of account" are kept. Even this is not defined and is taken as meaning that the records must be adequate to enable an auditor to satisfy himself that the final accounts have been properly prepared.

The only constraint on everybody else is that you must be able to produce accounts to satisfy the tax man at the end of the year. Most people employ an accountant to take care of their tax affairs, and the accountant will define the minimum of records that he requires. Usually all he needs to be certain of is that all transactions are recorded and identified and for the very small business the diary does this job very well.

## Small, medium or large, sir?

The 'backbone' of any accounting system is that it records all the financial transactions. Before starting to look at the way in which computers can be used to help with the accounting of small businesses, let's try and get a feel for what sort of accounting is required. Small businesses tend to divide them-

## French roots

In the earliest systems there was always a 'journal' where everything was entered. This was the 'Prime Book' or 'Book of Original Entry' and the rest of the book-keeping and accounts grew from it. Journal is the French word for a diary.



selves up into three categories.

1. The cash-only business, where all receipts and payments are in cash and settlement is immediate;
2. The cash settlement business, where all receipts and payments are made in cash, but where there may be a period of credit between the debts being incurred and their settlement;
3. The business that has its own bank account and where many of the settlements are by cheque. In this case there is almost certainly a fair proportion of credit trading as well.

These three categories can each also be subdivided according to their size and the number of transactions. The greater the number of transactions, the more important the book-keeping becomes as there is less chance of you keeping them all in your head at once.

So what can you actually do to control the accounts in your business? Let's start by looking at a one-man cash business where a diary would give a perfectly adequate record. The owner can probably rely on his memory to fill in details not in the diary (if he can't trust his memory, all he has to do is to write a short 'narrative' for each entry as a 'reminder'). If there is a need for an engagement diary anyway, why not just set aside part of each page for the 'money diary'?

Now, for ease of future reference let's separate the receipts from the payments. By tradition, receipts go on the left and payments on the right of the page. Now you have the bare bones of a cash book without even noticing that you are 'book-keeping'! All you need to make it into a full-fledged Cash Book is to 'balance it off' from time to time. This gives you the advantage of being able to check that the amount of cash 'in hand' agrees with the balance in the cash book so checking the accuracy and the completeness of the record.

There are many diaries on the market with cash columns on each side of the page to make this easy, or if you don't want to mix the money and the other entries, there are others with a separate section for 'expenses' which can easily be modified. Or you can go all the way and have a separate cash book, in which case this cash book and a cash box form the whole book-keeping system, and perfectly adequate it would be too!

## DUPLICATE

## RECEIPT

## BOOK

## FILE OF

## PAID

## BILLS

## CASH BOOK

Receipts on this side			Payments on this side		
date	Narrative	\$c	date	Narrative	\$c
	B/Fwd	5			
Mon	Takings	100	Mon	Goods	60
				Rent	20
Tue	Takings	120	Tue	Petrol	15
				Bags	7
				Goods	110
Wed	Takings	130	Wed	Repairs	25
Thu	Takings	175	Thu	Wages	55
Fri	Takings	130	Fri	Banked	360
				C/Fwd	8
		660			660

The next refinement to add, if you are to have your accounts prepared and audited for tax (or any other) purposes, is to keep all the supporting papers such as bills and receipts so that the accountant can check the diary and satisfy himself that it is complete. If your business is one where you make out cash bills for customers, or give them receipts, then it is just as well to keep copies (in a duplicate book perhaps) of these as well.

Our whole accounting system now looks like the cash book shown in the diagram. If you show the money you started with ('B/Fwd') as the first 'receipt', and the money left at the end of the week ('C/Fwd') as our last 'payment', the two sides of the cash book must 'balance'.

### Computers? Who needs 'em?

But what has all this to do with computers? Nothing! Yes, this is a computing magazine, but you can only use a computer when you understand what you want it to do and how it is going to be able to help you. This month we have looked at a system where the computer is not needed. Next month we will look at a more complex system where the computer starts to be of use. Finally we will look at full accounting programs, and by then you will have a clearer idea of what you might want and how to set about getting it.

### Countdown to counting

Early man had an elementary number sense, but no number words - in the same way that birds know when an egg has been taken from their nests. Even when number-words were invented they couldn't be recorded until number-symbols were invented. Did you know that even the ancient Greeks who gave us philosophy and geometry had no number symbols? They used letters with a superscript: alpha-primed=1, beta-primed=2 and so on.

There were many different sets of early number symbols, but you only need to consider Roman numbers, which are typical, to see that they don't lend themselves to adding up - let alone any more complex calculations - without great difficulty.

Indeed you could say that the Roman abacus was the earliest form of computer, and it was neither easy nor fast to use!

The Romans got round this problem by using slaves as a form of analysis - each activity was looked after by a different slave, so if they wanted to know how much they had spent on transport they asked the transport slave, or on rents the rent slave. This was cheap since every Roman who had anything worth counting had a good supply of slaves, but it would definitely not be cost-effective today!

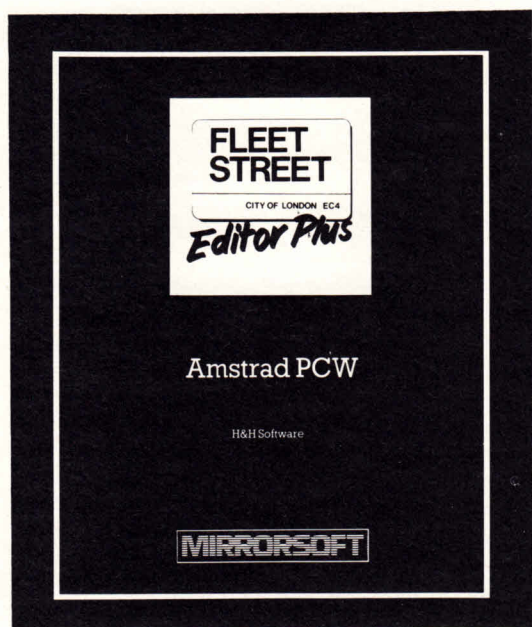


# Neat Fleet Street

Over 1000 man days' work has gone into Mirrorsoft's new desktop publishing program. What can it do for your PCW, and how well does it do it? Simon Williams dons his perspex-peaked cap to find out.

As the only inexpensive dedicated word processor on the market, the PCW has established a firm niche for itself among those who want to produce letters, reports, manuscripts or manuals. As it stands, it can produce a variety of different type styles, but can't cope with graphics, a wide variation in type size or complicated page layouts.

A new breed of software package has recently emerged, usually on much more expensive micros, known as the Desktop Publisher (DTP for short). This software extends the idea of a word processor by providing complete page make-up facilities on the screen, including graphics and display typefaces.



Fleet Street Editor Plus (FSE Plus) is one of the first fully integrated programs to provide a text editor, graphics editor and page layout editor which allows you to build up a fully illustrated A4 page on the PCW. While the rather 'under-powered' microprocessor inside the PCW imposes some restrictions on the package (principally those of speed), most of the functions available with DTPs on other micros can also be produced using FSE Plus.

The program also sets out to present its functions in a 'user friendly' way by using a series of pull-down menus and selecting most of its facilities from these.

## A guided tour

FSE Plus comes on two discs, one for the program and the other for the graphics library. Both sides of each disc are full to capacity. These discs are pocketed in the back of one of Mirrorsoft's high quality A5 ring binders, which contains a well illustrated manual falling clearly into tutorial and reference sections. There are also appendices at the back providing a quick reference for control keys within the various editors, and a gallery of the various fonts and clip-art. These pages are particularly useful, as you can flick through graphics on the page, rather than having to load them page by page into the graphics editor.

The tutorial section of the manual is referred to as the 'Guided Tour' and runs to 25 pages. As the name suggests, it takes you round the package, using a partly completed page to work on. As part of the tuition, you're asked to fill in the remaining column with a short story, leading headline and an appropriate graphic. This neatly covers all aspects of FSE Plus and provides a gentle way into some of the necessary complex sections of the program.

The reference section is sub-divided into the four main menu headings on the initial menu: text, graphics, layout and housekeeping. Each section provides detailed information on the function of each menu and control sequence used in the program. At the end of the manual is a more general section on page design and some useful hints on planning your publication.

The manual, as with previous offerings from Mirrorsoft, is well laid out and clear, and should present few interpretation problems!

## First Steps

The first thing you do is to copy the two master discs. Most of this can be done with DISCKIT, but side A: of the program disc has to be copied using PIP because of the FSE Plus protection system. When you come to use the program, you still have to pop your master disc in briefly to check you've a legally acquired copy of the program. While you're at it you'll need at least one blank, formatted data disc to take the text, graphics and pages you create. There's no room on the program or graphics discs for any data.

The program takes a while to load, and copies files off both sides of the program disc. If you have a PCW8512, more of the editor's files are copied to the M drive, but the program is still quite usable on the smaller machine, with a few extra disc swaps.

The main menu screen shows the FSE Plus header and four



menu options. Each refers to a particular function of the system.

### The text editor

This is a simplified word processor, which is quite adequate for editing short sections of text, though longer text is probably easier to prepare with LocoScript or Protex and feed directly into the text or layout editors.

Once you've loaded text into the editor, you can insert and delete characters in the normal way, and a quick press of the [RELAY] key reformats the current paragraph. Paragraph breaks can be inserted with two [RETURN]s. This is important, as the text and layout editors only recognise a double return as a paragraph break, and it's not possible to split paragraphs merely by indenting their first line.

There are three menus within the text editor, covering filing, block management and page setup. The file menu lets you load and save text files, abandon the current edit, start a fresh text file, erase a disc file and show details of memory and disc space. The memory details include the amount of RAM available for text and the amount lost in the current editing session. 'Lost memory' is a peculiar concept, which comes from the fact that the text editor uses up an increasing amount of workspace as it goes. If you save the text periodically and reload, then the 'lost' memory is restored.

The block menu controls cut and paste operations, and all the standard ones are there. You simply mark the start and end of any section of text by moving the cursor and selecting an option from the menu, and can then paste, copy, cut or save the text. You can use key sequences for each of these operations, and LocoScript users will be used to working with [CUT], [COPY] and [PASTE]. You need to re-mark a block after each operation, which is a nuisance. There is also a memory overhead (see box).

The page menu allows you to select column width, font size and line spacing (known as 'leading'), and to display a word count and the column length. The column length display is particularly useful as it allows you to measure your text in column inches or column millimetres and thus write to length. This is very important when producing single pages and can save a lot of time in the layout editor later.

### The graphics editor

This is where you create the pictures for your page. You can either clip them from the graphics library disc or create them from scratch using the drawing, fill and zoom facilities within the graphics editor.

The editor uses a small arrow pointer as a cursor, which can sometimes get lost in a complex graphic, but you only need to move it again with the keyboard or a mouse to see it easily. You can move the cursor in small steps by pressing any of the four cursor keys, or by even finer amounts (a pixel at a time) by holding down [EXTRA] while moving it. Areas of the screen can be defined by marking the bottom left-hand corner with a press of [ENTER] or [RETURN] and then stretching an elastic box out and completing it with another [RETURN].

Most of the features of the editor are selected from one of seven pull-down menus. The first of these, as with the text editor, deals with filing, and offers options to save the current

graphics screen to disc or to memory, and to start anew or select graphics from the library. You should back up each graphic regularly, as you can then undo any mistakes more easily by going back to old versions. You can scan through the library a page at a time and select a graphic by outlining it. This calls it into the graphics editor and you can then pull it apart and adapt it as you like.

The frame menu lets you change the style and thickness (weight) of the lines making up a box, circle or ellipse. There is a wide variety of different combinations.

Even though this is the graphic menu, you can still add text to your picture, using the text menu. There are some limitations, like not being able to edit text on a line, once you've left it (by pressing [RETURN], for instance), but you can still choose the same point sizes and typestyles in the layout editor.

The graphics editor includes a good fill routine which will fill complex areas quickly. There are 32 fill patterns available and the fill is initially in black. The graphics editor checks with you that the fill is OK before changing for your selected pattern. When you come to transfer graphics to a page layout, you must choose the 'pixel-by-pixel' copy option, otherwise the result of scaling a fill pattern to fit a new size can cause weird effects.

The edit menu offers options to copy, delete, move, rotate and scale a predefined section of the graphic screen. There is a limit on the size of this section, which is again a function of the available memory. You should scale the graphic in the graphic editor and fill after you've changed its size, if you want to avoid distortion in the layout editor later on.

The draw menu offers an easy way in to drawing a number of regular shapes. You can use the options to construct lines, boxes, circles, ellipses and squarcles. This last object is a box with rounded corners, but oblong versions of it tend towards ovals. You can also draw freehand, using the sketch option, but this is much easier with a mouse than with the cursor keys.

The final menu, for zoom, allows you to insert and delete individual pixels, and is very useful for 'tidying up' graphics and checking that 'closed' shapes don't leak when you try and fill them. You move a predefined box around the screen to outline the area you want to zoom on, and the editor will then show it at full screen size.

### The graphics library

The 26 pages of graphics supplied with FSE Plus are varied and well selected. You have lots of borders, flashes and logos ideal for the kind of newsletter work to which the program will probably be put. There are also some good maps, a complete set of PCW memorabilia and even a Harrier jump-jet. The selection is better than similar sets on other DTPs and has less of a 'US feel' to the drawing style than many.

### You dummy

Before you get down to the nitty-gritty of laying out the pages of your publication, you have to set up a publication file on disc. You enter a long (35 character) description of the publication and a six character file name, a description of the page (A4, A5 landscape or A5 portrait) and whether you're



going to need facing pages (ie special left and right hand pages). If you are, FSE Plus will offset the pages to allow for stapling or binding. With this information, FSE Plus goes away and turns it into a file to hold your layout.

The next stage is to define a page dummy, which is a kind of template. This isn't essential, as you can create a page quite happily without one, but it does allow you to create several pages with the same basic layout. You make up a page dummy by positioning a series of horizontal and vertical lines (the 'limits') on a blank page. These limits outline the blocks in which you can then put text, headlines or graphics. The limits can be moved at any stage in the layout, but only one font and type size can be used in any block.

You can only define one page dummy per publication, so if you intend to use dummies and expect to have a front page which is different from the inside pages, you will probably have to layout the front pages from scratch.

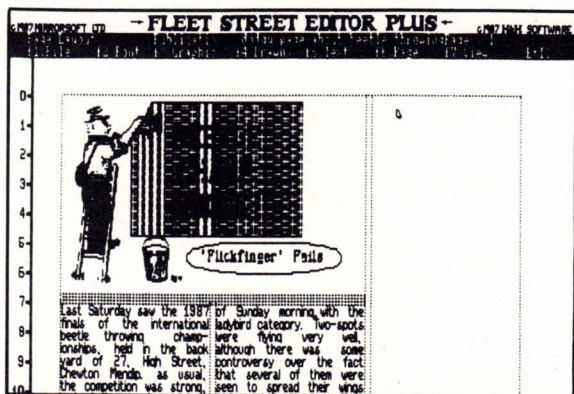
When designing a page dummy you start by specifying the number of column guides you'll want to use. You can choose between one (full page) and seven (1" columns). Guides can be removed or adapted later if need be, but they do help to get a set number of equally-sized columns on the page. You can also choose to have imperial or metric measurements on the sizing rulers which appear along the top and down the left-hand side of the page.

You can continue to add or delete limits and can 'clip' them to the column guides to ensure the proper column spacings. When you've finished, the page dummy is saved to your publication file.

## The layout editor

The editor itself offers seven drop down menus and shows about a third of an A4 page, complete with limits, text and graphics, rather reduced and elongated. You can move a small arrow cursor around the screen with the keyboard or a mouse, and build up your layout by picking options from the menus.

The file menu offers the normal save, load and abandon options, but also allows you to save just the format (the page with guides and limits) to use as a page dummy on future layouts.



▲ A partially completed page in the layout editor

The font menu lets you select any of five fonts in each of four point sizes, five styles (normal, outline, bold, slanted and

underlined), and in a variety of headings. You can also call up a status display of the current settings. If you change any of the font options, text in the current block (the area with the cursor in it) will take up the new attributes. If you increase the size so much that the text won't fit in the current block, you will lose what FSE Plus can't fit. It's still in the text file though, of course.

The graphics menu offers only one option, but this is different depending on the contents of the current block. If the area is free, you can insert a graphic - if it already contains a graphic, you can delete it. The insert option allows you to select a graphic from a disc file, and to reduce it to the size of the area you've defined on the page to take it. This is done progressively in horizontal and vertical scans and you can either maintain the relative proportions of the graphics or do a 'pixel by pixel' copy.

The draw menu lets you insert boxes and lines. These are different from guides or limits, though they may lie over them. They appear on the finished page and are printed as borders. The same menu lets you alter the weight and style of each line, with five thicknesses from 1 to 9 point, and continuous, dashed or dot-dashed.

Pre-prepared text can be inserted into (and deleted from) any defined block by selecting an option from the text menu. If there is insufficient room to take all the text, you can either flow it into another area by repositioning the cursor, or close the file and continue it on another page. Headings are added directly from the keyboard, and as the font, size and style can be the same as in articles, you can use this option to enter any kind of text from the keyboard.

When you are laying out prepared text on the page you can stipulate 'discretionary hyphens' at appropriate points in words, and the layout editor will then automatically hyphenate at these points to avoid big gaps in narrow columns. You can also automatically justify text with another option from the text menu.

The page menu will flip from one page of a multi-page publication to another. It is also used to add or delete entire pages and to return to the dummy page layout.

The last menu is named view, and allows you to insert and delete limits, to turn their display off, to show a vertical ruler and to turn the 'snap' function on and off. This last feature automatically ties text and graphics into the left-hand corner of any defined block. Without the snap on, you can position them at any point within it.

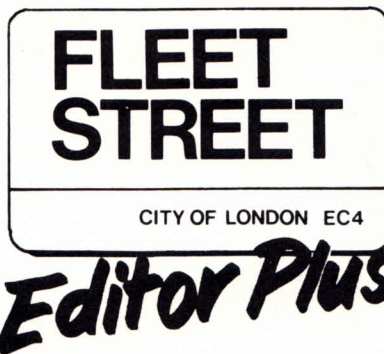
## Putting it on paper

Once you've completed the page or pages which make up your publication, you can view them at reduced scale in sequence to check the overall layout and then print them out. You have options for the PCW printer, other dot matrix printers and even a laser, though this will only produce a high quality print at dot matrix resolution.

The high quality mode on the PCW printer takes a good while to complete, and you would obviously only print your master copy, and photostat other copies.

Because the PCW printer is fairly cheap, you won't get very high quality text from any desktop publishing program. Certainly if you think that LocoScript's 'high quality' text is





## The world of desktop publishing on your Amstrad PCW

**Fleet Street Editor Plus brings desktop publishing to your Amstrad PCW 8256/8512. Now you, too, have a professional, low-cost alternative to expensive and time-consuming typesetting and artwork services.**

### Use it to create:

- Multi-column newsletters and publications
- Advertising layouts and brochures
- Business reports and contracts
- Promotional literature and specification sheets
- Flyers and overhead transparencies
- Organisation charts and flow charts
- Invitations and announcements
- Menus, Cards, letterheads and much more

Fleet Street Editor Plus is flexible, yet very easy to use. Working on a what-you-see-is-what-you-get principle, designing page layouts that work becomes intuitive.

### Page make-up:

- Full page composition with multiple columns
- Left and right hand page orientation and automatic page numbering for multiple-page documents
- Text editing and picture sizing/cropping in page make-up
- Linked text blocks
- Variable page sizes and column widths
- User-created and editable page dummies

### Text handling:

- Type directly into the text or read it in from any ASCII word processed file
- Automatic word wrap
- Justification and proportional spacing
- Variable line leading
- Five different fonts in varying sizes and styles

### Graphics:

- Full-feature studio package for graphic creation and manipulation
- Accepts lightpen input
- A library of ready-to-use graphic images
- Facility to import graphics screens from other software packages

### Output

- Dot matrix

### Handling features:

- Pull-down menus
- Optional mouse control
- File management structures

### Planned optional extras:

- Additional graphics library discs
- Font editor and extra fonts
- Special printer drivers

### System requirements

Amstrad PCW 8256 or 8512  
PCW or Epson-compatible printer with Centronics interface

### Optional

Kempston mouse  
Electric Studio lightpen

**Price: \$249.95**

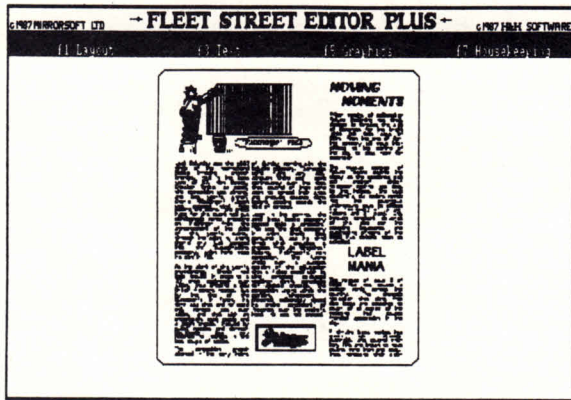
Available from your local Amstrad dealer or leading computer stores.

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▲ Overview of the completed page on screen

not good enough you won't be happy with FSE Plus's output. If you have access to a photocopier which will do reductions you will increase the print quality by preparing A5 pages as A4 and reducing them.

### Verdict

In the many months that FSE Plus has been rumoured, there have been several attempts at producing other DTPs. They have succeeded to varying degrees, but Mirrorsoft's product has certainly drawn the most from a PCW in this area to date.

The various areas of the program are well integrated, with text and graphics coming together well at the layout stage. H&H software, who programmed the whole thing, are also to be congratulated on providing so many facilities on a relatively slow micro, without the whole system grinding to a halt. If you have the cash to invest in a Kempston mouse, you'll probably feel the benefit in ease of use, especially when manipulating graphics.

FSE Plus is not perfect. Even forgiving the 'bugettes', there are a number of peculiarities with the program. The main one must be the way in which the text editor eats into the memory every time you define a block.

None of these is more than an inconvenience, though, and if desktop publishing is what you and your PCW have been waiting for, you won't currently find another program to give you more for your money.

### Bugblatter Beasts

This review looked at Fleet Street Editor Plus as it is intended to be. While the production version we had for review largely meets its specification, a number of problems were discovered during testing of the program, and it is only fair to mention them.

None of the problems cause the package to crash (stop working), but they can be inconvenient. Most are to be found in the text editor, and are most easily circumvented by loading text from files created on a separate word processor. These files must either be in LocoScript I or ASCII format.

#### Text Editor

The Cut and Paste option doesn't always work when you're moving a block from the end into the body of the text. The [RELAY] key, which reformats a paragraph, sometimes stops reformatting part way through a paragraph.

The [RETURN] key, which you're meant to press twice to insert a hard return into the text (split paragraphs) sometimes refuses to take effect.

The above three faults are not 'bugs' as such, but are a function of the way text is handled within the editor. Each time you move, copy or delete a block of text, you throw away some of the available text memory. If the limit drops too low, a message 'No RAM room' appears, and most of the editing functions stop working. You can rectify the problem by saving your work and re-entering the text editor, and avoid it by regularly saving your work. It's hardly the ideal way of working though.

Very infrequently, while deleting text from the screen, all the text disappears and you're left with a single line of peculiar graphic symbols. This only happened once during testing.

#### Layout Editor

If you delete a headline and the horizontal delimiting marker, the editor is sometimes confused and may still prevent you adding a replacement. If you save the part-complete page, and reload the layout editor, you should then be able to continue.

**Fleet Street Editor, a product of Mirrorsoft, is imported by ISD and will cost you \$249.95. For more details contact your local dealer or in case of difficulty ring ISD on (03) 222 2288.**

## Thereby hangs a tail . . .

Fleet Street Editor Plus is designed to be completely usable with nothing other than the PCW's keyboard. That's not to say that you can't use it with other input devices, though. The most obvious of these is a mouse, and the program is written to work with one of these high-tech rodents.

The mouse can be used for selecting options from the program's menus, for controlling the graphics blocks and for placing and deleting limits. The new high-resolution mouse works well, and only requires a small clear area of the desk. However, there are a few problems with the integration of the two programs. Click on either mouse button in the text editor and you're liable to leave small graphic blocks on the screen. The layout editor also develops ideas of its own and will only let you place limits in set place on a page dummy. Rather disconcerting.

If you want to extend the graphics library, you might like to connect a video digitiser, which can capture images from a video camera or tape.



# TIP-OFFS

**Caution! Reading these pages could give you an unfair advantage over ordinary mortals. Can your conscience stand it?**

## A date with dBase II

dBase II is one of the programs that needs the current date to be entered, and it is tedious to have to do this each time you run it, especially if you have a real-time clock to maintain the system date for you.

It is possible to write a dBase procedure to read the date from the PCW. Two PEEKs are needed to do this: PEEK(64500)+(256\*PEEK(64501)) gives the day number counting from 1 January 1978. For example, 1 February 1978 is day 32, 1 January 1979 is

day 366, 21 April 1987 is day 3428 etc.

Knowing this, it is then quite simple to write a routine to pull out the date in a more conventional day/month/year form.

*Tim Smith*

## Protex Address list

Here's a handy way to file names and addresses for envelope or label printing in Protex. You can set up a Protex EXEC file which will go through a list of your most commonly used names and addresses and print the one you want.

Create the file of names and addresses so that each entry consists of: (1) a brief code name which is easy to remember; (2) the correct

full name; (3) up to five lines of address; and (4) a single blank line to mark the end of each entry. Because of the way Protex works, any line containing a comma must be enclosed in quotes - see the example.

Save this file and call it "addr". Now type the set of Protex commands shown in to a file called "env" and save it. To use this, having inserted your envelope or

label in the printer type  
pq env

The screen will ask for a name, so you type the short mnemonic for the address you want, whereupon the correct name and address are printed. If the code-name is not found, the Protex prints an error message and no harm is done.

*Terry Dwyer*

```
>tm 0
>ps on
>pl 15
>sm 20
>av Name
>df addr
>rp
>rv person,fullname,ad1,ad2,ad3,ad4,ad5
>un person=name
&fullname&
&ad1&
&ad2&
&ad3&
&ad4&
&ad5&
>cf
>ps off
```

```
tau
The Amstrad User
1/245 Springvale Rd
Glen Waverley Vic 3150
```

```
two
"R. Two, M.A."
2 Two Lane
Twoside Estate
Twotown
NSW 2222
```

```
ron
Pres R. Reagan
The White House
WASHINGTON DC
USA
```

## Doctoring DR Graph

If you use DR Graph, you will know how slow it is to get hard copy from the standard printer. Often you will need a rough test printout while developing a graph, but a screen dump leaves a lot to be desired. Well, here's the answer.

You may have noticed that on the output menu you are given a choice of a plotter, a printer or the screen. Hands up all those with a plotter? Hmmm, not many. If you don't use a plotter, you can modify your startup disc so that you can print out a low resolution copy much faster than the normal high resolution one. What you need to do is edit the file ASSIGN.SYS (using, for example, the RPED editor): you will find the file looks something like

```
21@DDFXHR8)
11@DDHP7470
01@DDSCREEN
```

You should change it to:

```
21@DDFXHR8
11@DDFXLR8
01@DDSCREEN
```

and then transfer (with PIP) the file DDFXLR8.PRL from side 4 of the master discs to your DR Graph startup disc. Now if you select 'plotter' output for your graph, you will get a low resolution draft printout on the ordinary printer.

You may find some of the text fonts appear differently in low and high resolution modes, but you will have to live with it.

*Derek Holcroft*

## Modern keyboard layouts

It is possible to redefine the LocoScript keyboard to conform to the Dvorak standard. This is a much more efficient layout than the standard QWERTY one.



```

?
A)h:sid
CP/M 3 SID - Version 3.0
#rJ20LOCO.EMS
NEXT MSZE PC END
B100 B100 0100 DAFF
#dA280
A280: 00 01 C0 0C 43 18 FF 24 FF FF FF FF FF FF 42 ...C..$......B
A290: D2 FF CA C7 CE DD 5C FF 31 32 33 34 35 36 37 38 ..... \.12345678
A2A0: 39 30 2D 3D 71 77 65 72 74 79 75 69 6F 70 5B 5D 90 =qwertyuiop[]
A2B0: 61 73 64 66 67 68 6A 6B 6C 3B A6 23 7A 78 63 76 asdfghjkl;#zxcv
A2C0: 62 6E 6D 2C 2E 2F A9 21 22 A3 24 25 27 26 2A 2B bnm,/!@%&'*(
A2D0: 29 5F 2B 51 57 45 52 54 59 55 49 4F 50 7B 7D 41 )+QWERTYUIOP{}A
A2E0: 53 44 46 47 48 4A 4B 4C 3A 3C 3E 5A 58 43 56 42 SDFGHJKL:()ZXCVB
A2F0: 4E 4D 2C 2E 3F 40 4B A8 B7 A9 B8 AA B9 F7 F6 F8 nm,~?@.....
A300: 0D DF 15 00 14 19 1B 1E SE 04 1F 18 00 00 10 10 .....
A310: 13 1C 12 0B 0E 0C 16 07 DD DC 00 1D 00 00 11 09 .....
A320: 17 F5 BB 06 00 00 00 00 00 00 B5 00 00 D7 D6 D8 D0 .....
A330: FF 00 00 00 00 00 00 00 01 0F 08 00 00 00 0A 03 .....
#sA2A4
A2A4 71 ";,.pyfgcrll[aoeuiddhtnsf#zqjkbmww
A2C5 2F
#sA2D3
A2D3 51 ";,.PYFGCRLL{AOEUIDHTNS}<ZQJXKBMWV
A2F4 3F
#wJ20LOCO.EMS
0160h record(s) written.
#*C
A)M
    
```

Luckily, hidden away in the LocoScript system files is its own definition of what key produces which character. What you have to do is 'hack' into this file and alter the list, so that LocoScript thinks you have pressed L when really you typed P. To recap, the Dvorak layout is shown below, with the corresponding QWERTY keys. First start up CP/M and make a copy (with DISCKIT) of your LocoScript startup disc on a new blank disc - once you've made the Dvorak alteration, you may want to have an old version around with the traditional keyboard layout still operative. Then remove the disc, insert your copy of side 3 of the master discs, and type SID [RE-TURN]. SID will acknowledge his presence with a rather terse sign-on line, and will then display a # symbol which is the prompt for more input. At this point put your intended Dvorak-style LocoScript startup disc in the drive. What follows assumes you have LocoScript 1.2, whose system file is named J20LOCO.EMS. If you have a

different version, you will have to find out the corresponding file name and modify the commands shown. Type  
 rJ20LOCO.EMS  
 and wait for the # prompt to reappear. The keyboard layout is defined towards the end of the EMS file, so to see the relevant section type:  
 dA280  
 and you should see the block of gobbledegook appear. At the right of the screen, you will see 'qwertyuiop...' embedded in the text, and then repeated later on in upper case. The lower case q is at location A2A4, and the upper case Q at A2D3. SID has a substitute command to overwrite these key definitions, so type  
 sA2A4  
 ";,.pyfgcrll[aoeuiddhtnsf#zqjkbmww  
 .  
 sA2D3  
 ";,.PYFGCRLL{AOEUIDHTNS<ZQJXKBMWV  
 .

All you need to do now is save the modified file, which is done with the command  
 wJ20LOCO.EMS  
 and press [STOP] to leave SID. When you start LocoScript up with this modified disc, you should find your new keyboard layout working. The final task is to relabel the keys. It may be possible to prise the keys off their old positions and click them back into the new ones, but if you break anything you are in trouble. The other option is just to white-out the old lettering and Letraset on new ones, coating with nail varnish to protect it.  
 John Eggeling,

```

; , . P Y F G C R L
Q W E R T Y U I O P
A O E U I D H T N S
A S D F G H J K L ;
Z Q J K X B M W V
Z X C V B N M , .
▲ The Dvorak keyboard
    
```

**Logo autostart programs**  
 The chief problem with using DR logo on the PCW is that it seems to be extremely badly documented. Here are a couple of facilities that you may not know about:  
 1. When DR Logo is started, before it puts the '?' prompt on the screen it apparently looks on the disc for a file called STARTUP.LOG. If it finds one, it automatically loads any Logo procedures the file contains into your workspace. So, if you have any procedures you use in lots of programs, save them from your workspace onto your Logo startup disc with the command

save "startup  
 Logo reads STARTUP.LOG as though you were typing at the keyboard, so if you edit the file directly (it is a simple ASCII file, so you can use RPED) you can include direct commands to run procedures too.  
 2. The command char27 produces the notorious 'Escape' character (ASCII code 27), and this can be used to produce various effects to control the screen, as described in Appendix III 'Terminal Characteristics' in the CP/M manual. For instance:  
 type word char 27 "0  
 turns off the infuriating 'Drive is A' message at the bottom of the screen, and  
 type word char 27 "p  
 type word char 27 "q  
 respectively turn reverse video on and off.  
 3. You can similarly control the printer. The command copyon makes the PCW echo all output to the printer, and copyoff stops the echoing.



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## Fleet Street Editor

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For the CPC6128 or 464 with 64k expansion. This super package is still available from the authorised importers. To get backup or replacement upgrades order through your local Amstrad retailer or direct from us. AMX Extra is now available with extra clip art. Pagemaker RRP is \$185. MAX RRP \$69.95. Magazine Maker RRP \$449. Rombo Digitizer RRP \$319.

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- \* You supply goods and services
- \* It's small, employing a few people
- \* Few of your sales are on credit
- \* You don't need stock control on a line by line basis

And these are your problems:

- \* Paperwork tends to accumulate
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- \* You need to update information on Bank Balances, Sales Costs, Running Expenses etc.... Then your answer is:

**CASH TRADER** (6128 to PC1512)  
RRP \$275. With Analyzer \$405

## Word Processing with Protex

Protex has built up a solid reputation for having the fastest and most professional word processing package for the Amstrads. Not to be compared with "toy" w/p programs, this one is for those who are serious about the time they spend and the quality of the output. Protex is available for the CPCs either on disc or in ROM. For the 6128 and PCW you can also buy the complete system of word processor, spelling checker and mailmerge complete with on screen word count etc. for just \$272. We can also supply the Protex Tutor on disc for just \$45. Ask your local Amstrad retailer or order direct from us.

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Designed with the professional investor in mind, this program will look after your portfolio of up to 300 companies. It will give you all known charting methods at the touch of a key with full graphic printout on any standard printer. Nothing compares with Sharemaster for speed, flexibility or power. It will run on the PCW and PC1512. PCW RRP \$429. PC1512 RRP \$525.

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## Beaver

A terrific new program for any business that issues quotes or invoices. Suitable for trades, restaurants or consultants. Beaver runs on the PCW and PC1512 and is priced at \$199.

## Payroll

Designed in Australia by Australians, this program has over 500 users around the continent. It will handle up to 999 employees, each with their own pay rate, 9 different overtime rates, up to 20 allowances or deductions, rostered days off, 9 day fortnights, 19 day months, automatic tax and Medicare levy, keeps track of holidays, prints pay envelopes, group certificates and coinage requirements. Hot-line service available. We have configured it to run on the second drive of the PCW 8512 and the PC 1512. Price is \$525 and it is available through your local dealer or direct from us.

## Dust Covers

Every good worker deserves shelter when not working. We have English Dust covers for the PCW and PC1512. PCW three piece set is \$49.95 and the PC cover \$39.95.

## Tempdisc/Tempmate

Two products from the author of LernLoco to help you become more productive with your PCW8256/8512/9512. Yes, the daisy-wheel model will be here soon! Tempdisc is a series of templates ready for you to complete. Suitable for all type of business and home use it has received rave reviews in the PCW Professional Magazine for August. Ask us for a printout. Tempmate is an acetate overlay that lets you design your own layouts. We will have the two as a package for just \$59.95. Or Tempdisc for \$49.95 and Tempmate for \$14.95. These are available through your local dealer or direct from us.

## 512k Memory

Release all the power of your PCW8256 by fitting one of our 512k memory upgrades. Complete with four pages of instructions, including hints and tips, this easy to fit upgrade is just \$112, direct or from your local dealer.

## Sandpiper Accounts, Stock Control and Job Costing

For the PCW and PC1512, there is no other accounting system that matches Sandpiper for ease and speed of operation. Up to 800 accounts on the PCW8512 and up to 5000 accounts on the PC1512HD, this fully integrated suite is the best value on the market. You can start with Accounts and add the other modules later or buy the lot in one hit. Accounts is \$385, with Stock Control \$525 and with Job Costing \$780. Sandpiper is available from your local dealer or direct from us.

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So, using the information from Appendix II of the manual,

```
copyon
type word char 27 "M
copyoff
```

sets the printer up to Elite text (12 pitch).

*John Clark*

### SuperCalc's zero option

If you work with large spreadsheets, you probably spend more time than you would like scrolling the screen left and right to see all the columns you need to. Usually you don't need to see all the columns at the same time, and if you use SuperCalc2, there is a neat trick you can use to make things easier. The trick is that SuperCalc can set the format of a column to have a width of zero. Cells in such columns can still be referenced from other cells, but the columns do not show on the screen or printout. The command to do this is

```
/F,C,range,0
```

This means that the columns you don't need to see at any particular time don't clutter up the screen. When you do need to see them again, either reformat them to the standard width, or Zap the whole spreadsheet and reload it from an un-spiked version.  
*Henning Brondum-Nielsen*

### The right image

One of the least satisfactory aspects of long-term working with the PCW is the poor quality of the screen image, with its lack of contrast and highly reflective surface. Most of the available antiglare filters are either costly, or use shiny plastic, or both. There is a simple, inexpensive solution. You need to go out and buy some fine mesh sheer

black nylon or chiffon type fabric, as used in ladies' panty hose, a roll of double-sided sticky tape and a sharp balsaknife. Stretch the fabric over the screen, and you will see the grey-green background becoming nicely black, reflections suppressed and characters sharpened. All you need to do is place a border of the tape around the monitor screen, stretch the nylon or chiffon over the tape so that it is taut, add some more tape to secure it in place, and trim off the excess.

*D. Jacques*

### Remarkable thought

Just a quick recommendation for anyone who has had problems with disintegrating markings on keys. Try carefully restoring the lettering with a black Staedtler Lumocolor 313 marker pen - it has a very fine point and, most important, after a few seconds it won't smudge, even on plastic.

*Gary Jones*

### Tidy BASIC Listings

When writing a BASIC program, some people take a lot of trouble with the layout by indenting FOR/NEXT loops, WHILE/WEND loops, and generally making the listing look neat and tidy. However, when listing it to the printer all the good work is lost. This is because the PCW screen is 90 columns wide, but the printer is only 80 columns wide in its standard 10 pitch (pica) text. Any text in the last 10 columns will be printed on the next line down and mess up the layout.

An easy way to get round this is to change the printer defaults with a simple Basic program, for argument's sake called ELITE90.BAS, as

## Make room, make room

One of the drawbacks of Mallard BASIC is the lack of support for multi-line statements. Having to resort to cramming everything in an IF statement onto one line separated by colons makes the resulting listing difficult to read and, therefore, difficult to debug:

A way to overcome this is by using lots of [TAB]s to align multiple statements beneath each other. You can also add a 'dummy' REM to each line to space the listing out. [TAB]s and spaces don't affect the meaning of a line at all (unless they are in the middle of a word!).

Of course, listings can't be printed this way in magazines because they would take up too much space on the page, but you can perform your own mental

```
330 a$=INKEY$
: WHILE a$=""
: a$=INKEY$
: WEND
: a=INSTR(M$,A$)
: IF a=0 THEN 330
: '
340 RETURN
```

```
330 a$=INKEY$:WHILE a$="" :a$=INKEY$:WEND:a=INSTR(M$,
a$):IF a=0 THEN 330
340 RETURN
```

conversion as you type them in. After the line number, press [TAB] once, then at each colon press [TAB] until you get to a new line, then put the colon in, then [TAB] again to align the new line with the one above.

However, things may go awry when you print out unless you make sure the printer and screen are the same width. Before you type any listing in, you should give the BASIC command

```
WIDTH 80
```

and before any printing,

```
WIDTH LPRINT 80
```

Now your printout will correspond to the screen settings.

*P.L. Sanders*

shown. The first line sets up 12 pitch (elite) text. The second and third set the left and right margins to 0 and 90 respectively, and the final line makes these settings the defaults, so that doing a printer reset will not lose them.

You could run this program automatically by including the line:

```
BASIC ELITE90
```

in your PROFILE.SUB file, as long as you have BASIC.COM and ELITE90.BAS on your

startup disc.

The printer control codes used in this program are described in Appendix II of the Amstrad CP/M manual. The listing for ELITE90.BAS

```
10 LPRINT CHR$(27);"M";
20 LPRINT CHR$(27);"L"
;CHR$(0);
30 LPRINT
CHR$(27);"Q";CHR$(90);
40 LPRINT CHR$(27);"d"
50 PRINT "Printer de-
fault set to 90 column
12 pitch"
```

*Dennis Shannon*

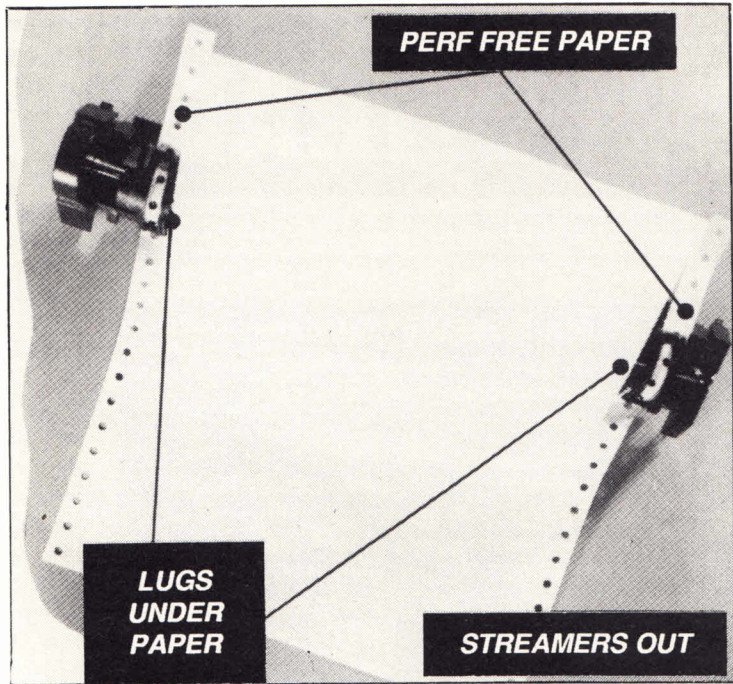


### 2000 perforations in every bag

Did you know that your PCW printer has an automatic perforation-stripper? Well, to be honest it isn't entirely intended as such. If you use continuous stationery with tear-off sprocket holes, it can be a chore to pull off all the edges after a long print run. However, with incredible cunning, if you thread the paper properly you can get the printer to do it for you. Before you begin printing, tear a short strip off the leading sheet. Now thread these loose torn edges onto the sprockets, and the mainbody of the paper over the tabs that

protrude from the sprocket mechanism. As the paper feeds you will find that the paper separates itself from the sprocket perforations. The diagram should make matters clearer. You really need to use microperforated paper for this - you might find that the ordinary coarsely perforated paper jams and tears.

Dr. T. Duker



# capacity computers

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# Which Accounts Package?

**Here's the scenario. You're a small businessman who owns a PCW. You realise it's more than a word-processor and are considering using it to computerise your accounts.**

**One thing's certain there's never been a more economic way of doing it. Just as your PCW cost you a fraction of the cost of an equivalent machine of a year or two ago, so the cost of accounting packages themselves has been slashed. On a different machine you could expect to pay five times the price of these packages for essentially the same performance.**

**Even so, there are tough decisions involved. Making the transfer onto a micro can be a major operation. You could spend weeks getting used to software you'd spent many hundreds of dollars on only to discover that the package wasn't really suitable.**

**Maybe we can help. David Adams is a practising company accountant and also the owner of a PCW 8512. He's spent quite a while poring over the main accounts packages available on the PCW machines. All of them are integrated systems aimed at professional users.**

**His findings should help you decide which one is suitable for your business.**

## SAGESOFT POPULAR ACCOUNTS

**\$357.50**

Sales ledger / Purchase ledger / Nominal ledger  
This package, several thousand of which have already been sold to PCW owners, has a bigger brother called Popular Accounts Plus which includes an invoicing and stock control module. However, we reviewed the simpler version.

The software is supplied on a single floppy disc with comprehensive manual. There's also an audio cassette which gives an introduction to the accounts package and to CP/M plus a "rolling demonstration" on disc and a tutorial. The package is available for the CPC6128 as well as the PCW range and instructions are included for each variant.

Unfortunately there is some confusing advice on configuring the system for the PCW 8512 - it implies that having formatted a CF2DD disc for drive B the program can still write to this disc in drive A, an operation that is not permitted by the operating system! The instructions for personalising the

master disc (which cannot later be amended) are also less than complete.

These confusions aside, the instructions are very comprehensive and should allow even the totally non-experienced to set up and run the system. The instruction manual advises the inexperienced to consult an accountant before setting up the nominal ledger although a suggested layout is provided.

There is some very good advice on how to keep good backup copies of the data discs, an item easily overlooked by the first-time user.

You can choose how the data files are to be configured. For example, a twin drive system could cope with 300 sales accounts, 150 purchase accounts and 200 nominal accounts, leaving room on the data disc for 1200 transactions.

## Sales Ledger

When setting up the system, care must be taken in arranging the account numbers of your customers as all printouts are produced in numerical sequence only. For this reason it is necessary to calculate how many numbers need to be reserved for each letter of the alphabet if printouts are to be in alphabetical sequence - if insufficient space has been left for subsequent additions the reports would soon become very muddled. You could keep a separate cross reference list, but even this would not be very satisfactory in a business with constantly changing customer or supplier lists.

On the plus side, there is a provision to print a list of customers with or without addresses and labels may be produced for mailshots or for sending of statements.

Details of invoices, credit notes and receipts may be entered in batches but there's a maximum of just 15 entries per batch and no provision for analysis across more than one nominal account. So if you've sold a customer two different items which you needed to keep separate sales totals for, the invoice details would have to be entered twice.

There is, however, a very useful provision for a description of up to 25 characters per line which will subsequently appear on all screen enquiries and printed reports. Any errors on inputting the batches may be corrected very easily on screen before acceptance, after which all transactions are updated to the accounts immediately. Audit reports are not produced at this time but may be produced later and quite comprehensive.

There is no provision for making journal entries for adjustments - these would need to be entered as either invoices or credit notes.

The cash receipts program allows allocations against the transactions which are shown on the screen but does not allow for discounts which may have been taken and these would also need to be entered as credit notes.

However, there is provision for marking invoices as part paid or to show cash received as "unallocated" for subsequent allocation.

An Aged Debtors report can be printed showing the balances over four months and highlighting any accounts which have balances greater than the credit limit set.

Monthly statements may be produced at any time for ranges of accounts - but only on pre-printed stationery (Moore Paragon/Rediform R448SAG) at \$58.96 per thousand



(or at a higher price if personalised with your name).

#### Purchase Ledger

The Purchase Ledger is almost identical to the Sales Ledger in operation but does not hold details of the suppliers' account reference or address and does not produce remittance advices or labels.

Aged creditor reports can be printed but there is no provision to highlight when particular invoices should be paid or to identify discounts which may be taken. Again, discounts would need to be entered as credit notes.

#### Nominal Ledger

Nominal accounts are numbered from 1 to the maximum number initially specified and trial balances will print accounts (those that have been used) in numerical sequence only. The nominal account numbers for the main control accounts are predetermined by the system - this may help in getting set up, but it limits the program's flexibility.

You can however, produce monthly accounts or budget variance reports by the use of a comprehensive accounting layout. Budgets may be entered as annual amounts which the computer will automatically divide into equal monthly sums or may be input as different monthly figures. Unfortunately the procedure for actually producing these reports involves copying some files to a separate disc and not just selecting the reports from the menu.

In addition to the automatic posting from sales and purchase ledgers, posting may be by journal entry, again with a maximum batch of 15 items. There are separate procedures for posting cashbook receipts and payments and petty cash payments directly including the facility to enter tax as appropriate. Any accounts may be interrogated on the screen or output to the printer and transactions are held until a periodic reconfiguration of the disc is carried out to release more space for transactions.

#### VERDICT

Although this is a very neat and easily implemented suite of programs there are a number of limitations which really mean that it is best suited to a very small business with a fairly static customer and supplier base.

#### CAMSOFT PSIL

\$N/A

Sales ledger / Purchase ledger / Nominal ledger / Invoicing / Stock control

This package is included for comparison purposes only as it does not appear to be generally available in Australia in this integrated form. You can, however, get Camsoft Stock Control and Camsoft Invoicing as separate modules, both costing around \$150 each..

All five main programs and the numerous related files which make up this package are supplied on a single disc, which comes with a comprehensive manual in a stiff binder.

The manual includes plenty of information specifically for the PCW machines. Detailed advice is given on how to get the program up and running with the right number of

accounts and transactions allowed for the memory you have available. And the software includes a routine which automatically pips the various programs into the memory drive (M:). This frees up the floppy drive(s) for data discs and makes the programs run more quickly. It also means that little if any disc-swapping is required with this package, even on a single-disc 8256. But although it shouldn't take you long to get the program running, setting up your accounts structure could prove more problematic - there is no default system provided so you have to start from scratch. This involves creating at least eight nominal accounts with five-character names linked to summary accounts (and incidentally the program can do strange things if you don't stick to capital letters!). If you know what you're doing the system is very flexible, but you may well need to involve your accountant.

Here are some other general features:

- \* A powerful search and sort of all records is incorporated enabling records to be accessed on a number of criteria.
- \* You can specify up to ten different passwords to prevent unauthorised eyes peeping at the figures!
- \* It is possible to change the printer codes to configure the system to suit most printers.
- \* All printing is onto plain paper avoiding the need for expensive pre-printed stationery for small businesses with a low turnover.
- \* Files may be "exported" to LocoScript for subsequent editing.

#### Stock Control

This can be used as a self contained stores control or linked to the invoicing program for automatic reduction of stock quantities. It is possible to flag any stock item not to be reduced when invoiced, thus allowing for a mixed stock control and product information file. The system also provides for manual adjustments.

Stock movements can be analysed over 4 product groups, 125 analysis codes, 3 dimension codes and 125 supplier codes. The record holds cost price plus up to 3 different sales prices together with month-to-date and year-to-date usage value.

#### Invoicing

The invoicing program is linked to both the stock and customer files which means that addresses and goods descriptions can be entered automatically. Up to three standard prices are catered for and customer files can be set to give a netted discount to hide any internal pricing structure.

The program caters for freehand input of non stock items or narratives and calculates the invoice and tax on the screen for checking before printing. The invoices are printed on plain paper with as many office copies (plainly identified) as may be required. Details of invoices are recorded in a Day Book file which can be printed or displayed at any time.

Standard settlement discount can be set up on the control file and the program will automatically calculate both the amount of discount and the settlement date. This can be overridden by the operator and if no discount is allowed it will not show the facility on the invoice - very tactful.



Credit notes can also be created using this program but these do not automatically adjust stocks.

There are no options for the nominal ledger codes to be varied for different items on the invoices or even within the batch, they are all posted to a default account specified when posting the day book to the sales ledger.

## Sales ledger

Invoices and credit notes raised through the invoicing program would normally be posted automatically to customers' accounts as described above. But these items, together with cash receipts and journal entries can also be entered manually in batches.

Invoices posted manually may have split nominal and tax analysis. Disputed transactions may be marked and accounts with such transactions may be subsequently printed exclusively for checking.

Statements, and aged debtors customer lists can be selectively printed at any time. (The aged debtors list shows customer telephone number and credit limit for easy chasing of overdue accounts).

## Purchase ledger

The purchase ledger is very similar to the sales ledger with the addition of a remittance advice print at the end of the payment posting run. There is no facility for marking invoices with a payment date or with discounts due. Items in dispute may be flagged.

## Nominal ledger

Any number of accounts can be set up, subject only to the data disc limitations but each must be linked to a "summary account". For example you might have a summary account called "Salaries" with individual accounts for different departments. Balance sheet accounts are identified so that balances are not cleared down at the year end. As trial balances are printed in alphanumeric order it is important to carefully plan the accounts so that meaningful reports can be

extracted.

There is provision for up to 15 cost centres with an ability for costs to be apportioned over them on a percentage basis and there is a budget facility with either fixed or variable monthly budgets.

As well as the automatic postings from sales and purchase ledgers it is possible to enter journal batches and cash book batches directly.

## VERDICT

For a small company with a requirement for invoicing and stock control with good statistical reports this is a useful and versatile program. Compared to Sagesoft it's more powerful but harder to set up.

## M.A.P. BUDGET ACCOUNTS

**\$499.00**

Sales ledger / Purchase ledger / Nominal ledger / Invoicing / Stock control

This is a very comprehensive and professional accounting package brought down to the PCW machines at a considerably lower price than would be charged for use on larger computers. Because it is such a large package the programs are spread over two discs, with another disc supplied containing a "rolling demonstration". To run the software effectively as an integrated package you need an 8512 (or expanded 8256) with the B drive used for your data disc.

This should give plenty of space for coping with the requirements of a small business. For example, you could set up 300 sales and 100 purchase ledger accounts together with the standard nominal size of 250 accounts and a stock control system of 200 records and still leave room to spare.

Each ledger can be run with one program disc and the inevitable disc-swapping is only required when changing from one ledger to another. Normally good screen prompts advise you when to do this but occasionally (and annoyingly!) a disc error occurs.

## ACCOUNTANT - SPEAK

If some of the terms used in this feature aren't going down too well, you're probably suffering from a symptom called *Financiojargonitis*. Full treatment requires three years in a nasty institution, but for a quick remedy you could taste the following teaspoonfuls of info:

### Sales ledger

The regularly updated record of a company's customers. Each customer is normally allocated a separate account which provides a record of sales to them and shows how much is owed at any one time.

### Purchase ledger

Same as sales ledger except for suppliers rather than customers.

### Nominal ledger

The collection of accounts a company maintains to provide a detailed analysis of its spending and income. For example, separate accounts might be kept for Salaries, Property expenses, Promotional costs, and Purchases of various kinds of goods. In an integrated accounts system this information would be fed in automatically from the Sales and Purchase ledgers.

### Journal Entry

An entry made as an adjustment to an account - for example to correct an error.

### Posting

Nothing to do with Australia Post. Posting simply means adding a piece of information to an account.

### Aged Debtors

Not a reference to your customers who are over 70. Simply the people who owe you money.

### Audit Trail

Not the bloodied remains left

after a visit by the Taxman. It refers to the means available in an accounts system for tracing the history of any particular transaction. For example, a printout of a customer's account should give references which could lead you directly to your copies of any invoices sent to them.

### Settlement Discount

A discount allowed if an invoice is paid for within a short time, say seven days.



The menus in general are very logical and easy to use giving clear screen prompts where necessary.

A very comprehensive manual is supplied complete with suggested Data Input forms suitable for photocopying. But being a standard manual and not specific to the PCW, it includes reference to a few facilities which are not available on this budget package.

Some other general points:

\*When first setting up the system it is necessary to telephone MAP for a password to allow the entering of your name - this is to safeguard the system from pirating.

\*Invoices, statements and remittances may be printed on plain paper or on pre-printed stationery available from MAP.

\*There is no provision within the program to configure the printer - you'll probably need to use CP/M to set it for continuous stationery and compressed printing before commencing work each session.

\*Many of the responses are single character but the system insists that these are in upper case making it advisable to set the Caps Lock for normal usage.

\*File sizes are set by the user and, subject to available disc space, may be subsequently expanded.

\*Excellent audit trails are printed at the time of entering the relevant batches.

\*Any menu selections may be passworded by the user.

#### Stock control

The fully fledged stock control system is normally linked to the invoicing facility. This gives automatic stock updates of sales and returns (by credit note) but also allows manual stock movement entries.

Accommodating up to 3 selling prices and 5 cost prices per item, it keeps track of average stock values and also copes with allocated stock and outstanding orders.

Stock may be categorised into 99 groups which will allow limited location records to be kept and reports may be printed selectively for nearly every conceivable purpose including price lists and stock checkers' sheets.

#### Invoicing

The invoicing module is linked to both stock control and sales ledger, so you can produce invoices very quickly if standard stock items are involved. But there's also flexibility to produce freehand entries and to override standard discounts.

Split tax rates are coped with and nominal analysis is either taken from the stock records or manually entered for non stock items. Prices may be tax inclusive or exclusive with automatic calculation.

When entering stock items, the description and current stock are displayed on screen and it is permitted to "go negative" but a caution is given.

There is no separate procedure for credit notes which are created by inputting negative quantities.

Unfortunately the document itself is then still headed "Invoice" although it is subsequently referred to on account enquiries etc. as a credit note.

Full provision is made for accepting or rejecting each line of input and the invoice which is built up on screen is printed

immediately. Unfortunately, although a good audit trail is printed at the end of the batch, there is no provision for printing an office copy of the invoice itself which means loading 2 part paper in the printer.

There is also no provision for offering a settlement discount which would need entering as a text item.

#### Sales ledger

As well as automatic entry of invoices created through the invoicing facility, it is possible to enter manually produced invoices or credit notes in mixed batches with full facility for analysis across up to 10 nominal accounts. Tax percentages are checked on input and a warning made if there is a discrepancy exceeding 10¢, although the transaction may still be accepted.

There is no facility for entering adjustments by journal and these would need to be entered as dummy invoices or credits.

Cash posting and allocations are superb and allow entry of zero cash for cross allocation of credit notes to invoices. Settlement discounts are also catered for. Subsequent screen enquiries show allocated cash adjacent to its relevant transaction which is slightly confusing at first.

All transactions are retained until the period end when the allocated items are deleted and an audit trail automatically produced. A full transaction print may be taken with an option to print each account on a fresh page. This means full records can be kept of all transactions with some or all customers.

Customer details are comprehensive and reports available include aged debtors lists, reports of items which are due for settlement, credit limit exception reports, label prints and turnover reports.

Statements may be printed at any time for all live accounts or selectively. When amending or adding customer details a screen prompt advises how many records are in use and available and at the end of each session of entering new customers the file is re-indexed automatically, occasionally a time consuming process.

#### Purchase ledger

This is virtually identical to the Sales ledger but produces remittance advices instead of statements. These are produced on request after entering the payments in batches and the main menu indicates if there are any awaiting printing. There is no provision for recording the suppliers account reference or for printing it on the remittance.

#### Nominal ledger

This consists of 250 numerical account codes most of which are pre-assigned and categorised into trading, expense, assets etc. With the exception of the main control accounts, most of these accounts may be renamed although they must remain in the existing categories. This system makes setting up fairly easy, but could prove slightly restrictive for some companies.

As well as an excellent journal posting system, there's a special routine for payments and accruals - these are automatically reversed at the start of the next period. Trial balance prints show only those accounts with balances and a



separate cost centre report is available together with a very impressive trading, profit and loss and balance sheet printing facility.

## Period ends

Each ledger has its own period end designated and will not allow posting of items dated after this date. As each period end is separately run, it is possible to update either or both the sale and purchase ledgers before updating the nominal and the system will prompt the user to hold batches in abeyance pending the subsequent update of the nominal.

## VERDICT

An excellent suite with very few snags apart from initial installation. However, it could prove over-complicated for a small business.

## COMPACT ACCCOUNTS

**\$399.95**

Sales ledger / Purchase ledger / Invoicing / Nominal ledger.

This is a very comprehensive and professional package which has been in use on a wide range of micros for a number of years at many times the price now being asked for it on an Amstrad. This wide usage could prove very useful - data produced on the PCW could be transported subsequently to bigger machines as the suite is currently available for most 8 and 16 bit computers, all using the same data format.

And there are other ways in which the package offers great flexibility. You can set up and run more than one company from the same set of programs using different data discs. And you don't necessarily have to link the different parts of the package right from the start. If space was short it would be possible to run say the purchase and nominal ledgers linked, with the sales ledger and invoicing separately linked together and to update the nominal by journal entry from the batch audit trails produced. Fuller integration could follow later.

Unfortunately the sheer size of the package could cause problems. Intended originally for larger machines, it is supplied for the PCW on no less than SIX discs and runs in Mallard Basic. This makes its operation slow and cumbersome at times.

Another drawback is that although the discs supplied can be copied, the system will only run using the original set of discs. If any individual programs are corrupted the situation can probably be saved by "pipping" over from the backup copies - otherwise a new disc will have to be obtained from your supplier at a nominal charge.

A consequence of this attempt to avoid piracy is that the programs have to be run from the A drive, not the M drive. On an 8512 this is not too serious a problem as data can be directed to drive B. But with a single-drive 8256 your data is held during normal operation in drive M. Although this gives a speed advantage, a machine crash or power failure will mean losing your entire session's work.

Fortunately the huge manual includes a 28 page section specifically addressed to operating the system on PCW

machines, both single and dual disc. The software to includes routines to automatically back up discs at the end of the day and to set up the system at the start of a session - for example the PCW printer is automatically configured for continuous paper, a nice touch missing from most of the other packages.

Another excellent facility is the ability to create data files from all sections of the program for output to SuperCalc 2, Multiplan, Wordstar and NewWord. In other words you can move figures from your accounts directly into a spreadsheet or a letter.

## Sales ledger

This offers virtually all the features any small to medium sized company could want:

- \*Reports of customer accounts are printed in numeric or alphabetical order. (However, the program sorts on only the first three letters of the account name).

- \*Tax summaries showing all transactions can be printed at any time as can an automatically maintained control account.

- \*Customers may be classified by a combination of 100 rep codes and 100 area codes and reports can be selectively printed.

- \*There are facilities for the entry of invoices, credit notes, cash or journal adjustments in batches but cash must be allocated by a separate process and not as is more normal, during the cash posting routine.

- \*Negative input of any transactions is permitted which is sometimes useful for correcting errors.

- \*Statements for all or ranges of accounts with transactions can be printed at any time on pre-printed stationery or a full transaction listing can be printed on plain paper for archive purposes.

- \*The system automatically produces a very detailed audit trail at the end of each batch and immediately updates all relevant ledgers.

## Purchase ledger

This is broadly similar to the sales ledger with the addition of a payments facility with an option to print cheques or just remittance advices on pre-printed stationery. There is also a superb prepayment facility to spread costs from an invoice over up to 36 periods with the charge being automatically posted to the nominal ledger at each month end.

There is no option to enter a payment due date or to note discounts available but it is possible to print creditors' lists for overdue balances only or the accounts may be identified within up to 100 classifications for selective reports.

## Invoicing

Invoices or credit notes can be produced on pre-printed stationery using the sales ledger details with an optional link to a very comprehensive product file - this gives facilities for profit and turnover reporting on a customer or product basis.

The invoice is built on the screen with full editing facilities available and is immediately printed. At the end of a batch the audit trail is printed and all ledgers updated.

Standard discounts may be set up on the product file and



either accepted or amended during the invoicing production - there is however no provision for settlement discount which could only be entered as text.

Nominal ledger

This part of the system is again powerful and flexible. You can lay out a nominal ledger using any number of numerical account codes and with a facility to group the accounts in up to 100 user defined headings.

Reports are available in either full or summarised form with full quarterly, monthly or annual budgetting. Full journal posting routines with transaction descriptions are supported with a facility to set up standard monthly journals - these could be used to cover standing orders, for example.

Any account can be displayed on the screen or printed and a full transaction listing can be produced at any time.

VERDICT

An excellent, fully professional package. Much cumbersome disc-swapping is involved, although it can be transferred to a hard disc. This means that it is easily transferable to a PC1512 or other IBM compatible. A pretty comprehensive review of the PC version was printed in the July '87 issue of The Amstrad User. With only minor differences, that review should also be a guide for PCW owners. There is a 'bigger brother' Compact Accounts Plus which adds Stock Control to the list of modules. This version costs \$499.95.

CONCLUSIONS

The Sagesoft is the easiest package to install and will probably cope adequately with the requirements of a fairly small business with a static customer and supplier base. The comprehensive instructions and tutorial make it a system which could easily be installed by anyone with very limited book-keeping or computer knowledge.

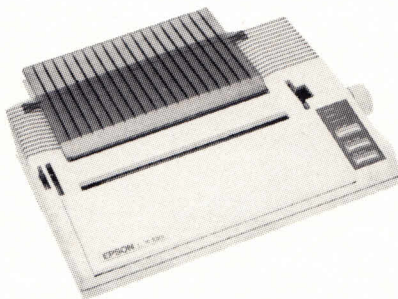
For someone prepared to put a bit more effort into the original setting up and with rather wider requirements, particularly for a business which needs a comprehensive yet easy to use invoicing/stock control package, the Camsoft system is more likely to prove of value. While it is still a fairly basic package which runs without the need of constant disc-swapping, it is likely to provide good service for most small businesses.

For a fully professional package for the growing business which prefers to run its account through to trial balance it is very difficult to choose between the MAP and Compact packages. They are both full specification systems squeezed down to fit the PCW and consequently require rather a lot of disc-swapping to fit all the available facilities. The MAP system seems to be more modern in its approach and, provided the restrictions in the layout of the nominal ledger do not prove to be too much of a handicap does, I think, may just have the edge over Compact. It is very difficult to find any major criticisms of the Compact package - its upgradability and ultra-flexible file structure could make it invaluable for some users. But it is somewhat longer in the tooth than MAP and, being written in BASIC, also suffers in its speed of operation, as well as being slightly more expensive.

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# Enigma Variations

by Rodney Bennet

## Enigma Variations - Code generator

There is a basic clash of personalities amongst the major groups of PCW user. There are a large number of writers who are very keen for anyone to read their brilliant prose and there are the computer people who have a strange fascination for coding and protecting everything just in case anyone else should read it.

Here is the ultimate paranoia aid for the really secretive from Rodney Bennet - details of how to use your PCW to write messages in unbreakable code.

Just about the most secure code known to spying is the 'one-time' pad. Without the original encoding material there is no way even the most skilled code breaker can break it - mainly due to the fact that each letter is coded with a random number unrelated to any other.

In the past cumbersome mechanical presses were needed to produce the pads but the randomising facility on the Amstrad makes it ideal for doing this with a short basic program. The 1234 in line 20 is a random figure to give the program something to work with when randomising - it can be any

```

10 CLEAR: DIM Z(260): y=1234
20 RANDOMIZE PEEK (64504!)
30 FOR n=1 TO 260: Z(n)=RND(y): NEXT n
40 INPUT "Enter name or number of pad": A$
50 LPRINT A$: LPRINT
60 FOR i=1 TO 2: v=1
70 FOR m=1 TO 25: FOR n=v TO v+9
80 LPRINT USING "####"; (Z(n)*8500)+999;
90 LPRINT " ";
100 NEXT n
110 v=v+10: LPRINT: LPRINT
120 NEXT m
130 LPRINT
140 FOR n=1 TO 26
150 LPRINT CHR$(N+64) "=";
160 LPRINT USING "###"; n;
170 LPRINT " ";
180 IF INT(n/10)=n/10 THEN LPRINT
190 NEXT n
200 LPRINT "Stop=27 Number=28"
210 IF i=1 THEN PRINT "Insert new sheet of paper and touch any key" ELSE END
220 b$=INKEY$: IF b$="" THEN 220 ELSE 230
230 NEXT i

```

four digit number. The RANDOMIZE PEEK in line 40 is essential to make sure it randomises differently every time (it takes its starting point from the system clock and so gives you a different set of figures each time). Without this you may get all the pads the same.

When you run the program there is a short pause while the PCW sorts out a set of random numbers. You then enter a name or number to identify each page and the program prints out pages of random pads. As it stands, it will produce 25 lines to fill an A4 page, but if you want to save time you can reduce the last figure in line 160 to produce a smaller pad.

You end up with a sheet containing columns of four digits with the alphabet at the bottom and a one or two digit number against each letter. When prompted put in another sheet and print out the copy.

Now decide on your secret message. It has to be something important that you don't want anyone else to know about. For instance it could be "Dear Iran, Here are more arms. Ronnie". Write the number for each letter with a zero for a space and 27 for a full stop. This message would read:

D	E	A	R		I	R	A	N		H	E	R	E	
4	5	1	18	0	9	18	1	14	0	8	5	18	5	0
A	R	E		M	O	R	E		A	R	M	S	.	
1	18	5	0	13	15	18	5	0	1	18	13	19	27	
R	O	N	N	I	E									
18	15	14	9	5	27									

Put these numbers under the line of numbers from your one time pad - in this case

1631	3712	8683	5774	5879	1739	7709	2527	4797	8513
4	5	1	18	0	9	18	1	14	0
7243	5463	6696	4369	8809	5552	8903	2670	4594	5909
8	5	18	5	0	1	18	5	0	13

and so on. Put the letter numbers below the numbers from the pad and add the two together to produce a unique set of four digit numbers, like this:

1635	3717	8684	5792	5879	1748	7727	2528	4811	8513
7251	5468	6714	4374	8809	5553	8921	2675	4594	5922

If the person who receives this message has a copy of your One-Time Pad they just reverse the operation, subtract the pad figures from the coded figures and translate the numbers back into letters. As every Amstrad User reader now knows your secret you might want to get really cunning and subtract the message figures from the pad figures rather than adding them. You could use a symbol (perhaps with number 28) to explain that the next group in the message represents numbers instead of letters.

One danger with this system is that it will get garbled in transmission. For instance, if one group of numbers gets lost, all subsequent groups move up one and make the rest of the



Enigma Test									
1631	3712	8683	5774	5879	1739	7709	2527	4797	8513
7243	5463	6696	4369	8809	5552	8903	2670	4594	5909
8418	6553	2549	2299	1190	8374	6560	2295	3345	7290
3214	4331	2337	5542	8283	4525	3094	5598	8246	7766
4885	6979	6959	4663	1729	3690	8254	5624	7820	2309
4879	4412	1044	6422	3931	9183	2808	8695	2067	9117
4505	8528	4377	1883	5591	7335	4458	5309	5346	3633
6827	4251	5037	3747	4952	6769	2820	6554	8792	3364
8340	7829	5381	7632	4111	3869	1594	1837	3893	1697
2875	4015	3399	2782	4819	7848	3296	5813	8642	7685
6080	8261	5671	8690	1038	5407	5648	9249	4643	4957
7229	4358	4824	9117	6709	1383	8211	3409	7120	7662
9064	2007	8982	2585	6721	6023	8588	2378	5017	5292
6370	4969	5780	3344	4473	3925	2090	4869	8827	7577
4662	9093	2100	1573	9293	3633	9074	7734	2470	6501
4070	3190	2353	2069	7218	1432	6952	1416	4455	4008
3984	9124	8278	1236	3469	3689	8907	6929	5306	6863
1119	3736	3127	4848	2166	9362	8933	4906	3788	8516
8559	3052	7478	7587	6707	6148	5264	3666	7866	7320
8419	1654	2589	2754	7605	2819	5212	4049	5121	9309
4215	2440	7006	6216	3082	4806	9412	3957	8597	8537
7265	4813	4184	5412	4357	6151	7486	4831	6154	1909
7521	9292	4204	5617	3892	4692	5689	1308	7109	4623
2241	2805	5760	2971	3822	4517	1855	5746	2054	8475
5298	9193	1521	8471	8091	5876	4097	1313	3464	9024

A= 1 B= 2 C= 3 D= 4 E= 5 F= 6 G= 7 H= 8 I= 9 J=10  
 K=11 L=12 M=13 N=14 O=15 P=16 Q=17 R=18 S=19 T=20  
 U=21 V=22 W=23 X=24 Y=25 Z=26 Stop=27 Number=28

▲ A page of pads generated from the listing on the previous page. The layout will be the same, but the codes will be different

message nonsense. It is therefore wise to show how many groups a message contains at the end of it.

The code can be broken if a lot of coded material is obtained and different messages can be compared. The really paranoid can interchange a number of one time pads to make it nigh on impossible to break.

The German Enigma system in World War II used a type-writer-like machine with whirling adjustable rotors that converted each letter into another letter. The Achilles heel of this method was that the letter was never represented by itself. The early British code breakers in Bletchley Park (who incidentally used electronic equipment known as bombs, probably the earliest computers) managed to obtain one of these machines and armed with the knowledge of this one flaw could often get a clue to what setting was being used that day.

But they still wouldn't be able to break your coded messages using your PCW One Time Pad, would they now?

## LocoScript Index

by Roger Wenham

```

10 attron%=CHR$(27)+"E"+CHR$(14): attroff%=CHR$(27)
  )+"F"+CHR$(20)
20 INPUT "Enter drive to be indexed: (a/b)"; dr$:
  dr%=dr$+"":
30 INPUT "Enter disc name: ";dname$
40 LPRINT attron%; "INDEX FOR DISC: ";dname%;attro
  ff$
50 FOR group=0 TO 7
60 OPTION FILES STR$(group)
70 IF FIND$(dr$+"*.*")="" THEN GOTO 250
80 groupnam%=LEFT$(FIND$(dr$+"*.grp"),8)
90 IF groupnam%="" THEN groupnam%= "Group "+STR$(g
  roup)
100 LPRINT:LPRINT attron%; "Group = " ; groupnam%;
  attroff$
110 FOR filecount = 1 TO 100
120 file%=STRIP$(FIND$(dr$+"*.*",filecount))
130 IF file%="" THEN GOTO 250
140 IF RIGHT$(file$,3)="GRP" THEN CLOSE 1: GOTO 24
  0
150 IF RIGHT$(file$,3)="DCT" THEN LPRINT file$;" -
  Locospell dictionary":GOTO 240
160 OPEN "I",1,dr$+file$
170 IF LOF(1)<3 THEN LPRINT file$;" - Not a Locos
  cript file":GOTO 230
180 a$=INPUT$(3,#1)
190 IF a$<>"JOY" THEN LPRINT file$;" - Not a Locos
  cript file":GOTO 230
200 a$=INPUT$(2,#1)
210 LPRINT file$;" - ";INPUT$(30,#1)
220 LPRINT SPC(15);INPUT$(30,#1):LPRINT SPC(15);IN
  PUT$(30,#1)
230 CLOSE 1
240 NEXT filecount
250 NEXT group
260 OPTION FILES "0":END

```

The paperless office is all very well but there is something reassuring in being able to print out a directory of all the LocoScript files on a disc. If you are one of those organised types that uses the 'Identify' function (the short piece of text which is displayed in response to the 'Inspect' command) it would be really useful to be able to print them out.

Trying yet again to live up to our reputation for being really useful, here's an offering from Roger Wenham. With the authority of personal experience he writes 'Never again need you scratch your head trying to decipher the cryptic filename that once meant so much and now looks like an explosion in a Scrabble factory.'

The program looks through your disc and prints out every file in its group along with the 'Identify' text. If your disc contains other types of file, it lists them with the curt message 'This is not a LocoScript file'. It even lets you choose between A: and B: drives (if you have a B: drive).

If you don't currently use the 'Identify' text here's a reminder of how it works. When you complete a document in LocoScript, press [f7]'Modes' instead of [EXIT] and select the 'Edit Identify text' option. Then you have three lines of 30 characters to use in any way you want to identify your file. To display the text later, just put the cursor over the file and press [f2]'Inspect'.



# TempDisc

## Handing you ideas on a template

Reviewed by Simon Anthony

Now and again, a piece of software comes along that really takes some of the hard work out of computing. The 'hard work' I refer to in this instance is designing a layout for a LocoScript document. Perhaps I'm a perfectionist, but it always takes me an age to get the final presentation just right! The arrival of TempDisc is certain to speed up production.

Quite simply, TempDisc is a series of templates which can be modified and

saved again for later use. The process is easy - just load LocoScript, change discs (f1), load your choice of template into drive M and amend it to your heart's content. Of course, you do have to know how to copy files and save phrases to get the best out of this package.

The templates are divided into eight sections or groups.

### Group A1 - INFO

This contains a 'FEEDBACK' section which will house user-submitted

designs to be included in future versions. If you are the first one to buy a copy then you won't see anything in here! PHRASES.STD, as its name suggests, has 26 phrases although only eight are of the commonly used "Thank you for your letter of" or "Yours sincerely" type. The rest are a collection of fancy borders including reverse video functions.

### Group A2 - HEADED

This group is where I discovered how lacking my own letterhead was. HEADERS4 is the file that caused my chagrin as it contains a variety of carefully designed letterheads covering most requirements. They can be printed on Continuous stationery, A4 or even A5 with modification. FOOTERS gives some layout ideas for bottom-of-the-page printing while BOOKSETC is a special file for Authors, providing both Headers and Footers, automatic page numbering and odd/even page considerations.

### Group A3 - FAMILY

Genealogists rejoice! The TREE template shows nine separate family branch lines allowing options from 1 to 9 family names. It is the only file in this group which allows direct access using the E=edit key. There are two layouts - one for an odd number of names and the other for even.

### Group A4 - LISTS

JEWELS is a simple heading to start a listing of your family heirlooms with a second page containing two sets of vertical and horizontal lines from which to choose. Two layouts, one for headings and one for text, are provided with PHONE to assemble a telephone list.

SHIPMENT is an example of a completed document for exporters, while

Disc management.				Printer: Online	at line: 1	Idle	High quality	Using none.	Single sheet
f1=Options				f2=Paper	f3=Actions	f5=Document/Reprint	f7=Reset	f8=On/Off Line	EXIT
Drive A:	TEMPDISC.A1	Drive B:	empty	Drive M:	24k used	332k free	3 files		
170k used	3k free	41 files	0k used	0k free	0 files				
A1INFO	34k	ASARTIST	23k	LETTERS	22k	group 4	0k		
A2HEADED	15k	AGMONEY	33k	SAMPLES	0k	group 5	0k		
A3FAMILY	5k	A7LABELS	19k	CONT	2k	group 6	0k		
A4LISTS	18k	AMISC	23k	TEMPLATE	0k	group 7	0k		
A: A1INFO	5 files	A: A2HEADED	3 files	A: A3FAMILY	3 files	A: A4LISTS	4 files		
0 limbo files		0 limbo files		0 limbo files		0 limbo files			
CONTENTS.A	20k	BOOKSETC.	4k	TREE	3k	COUNTIES.	5k		
FEEDBACK	0k	FOOTERS.	3k	TREE .BLK	1k	JEWELS.	7k		
PHRASES.A%2	2k	HEADERS.	8k	TREE .PHR	1k	PHONE.	2k		
PHRASES.STD	1k					SHIPMENT.	4k		
PRODUCTS.	9k								

▲ The choices ▼

Disc management.				Printer: Online	at line: 1	Idle	High quality	Using none.	Single sheet
f1=Options				f2=Paper	f3=Actions	f5=Document/Reprint	f7=Reset	f8=On/Off Line	EXIT
Drive A:	TEMPDISC.A1	Drive B:	empty	Drive M:	24k used	332k free	3 files		
170k used	3k free	41 files	0k used	0k free	0 files				
A1INFO	34k	ASARTIST	23k	LETTERS	22k	group 4	0k		
A2HEADED	15k	AGMONEY	33k	SAMPLES	0k	group 5	0k		
A3FAMILY	5k	A7LABELS	19k	CONT	2k	group 6	0k		
A4LISTS	18k	AMISC	23k	TEMPLATE	0k	group 7	0k		
A: ASARTIST	4 files	A: AGMONEY	7 files	A: A7LABELS	9 files	A: AMISC	6 files		
0 limbo files		0 limbo files		0 limbo files		0 limbo files			
BORDERS	5k	INV1	2k	ENVELOPE.EG1	2k	AGENDA.	2k		
DISPLAY.	11k	INV2HELP.	2k	ENVELOPE.EG2	2k	INVITE.	6k		
EXCHANGE.	3k	INV3MAIN.	7k	ENVELOPE.EG3	2k	LEAGHELP.	4k		
PALLET.	4k	INV3BLOK.	1k	ENVELOPE.EG4	2k	LEAGUEN.A.	5k		
		INV3HELP.	7k	LAB'BOARD.	3k	LEAGUEN.B.	3k		
		INV3MAIN.	7k	LAB'REAR.	3k	MINUTES.	3k		
		INV3(F2).	7k	LAB'STD.	2k				
				LAB'STD.X2	2k				
				LAB'TINY.	1k				



COUNTIES is an example of a multi-tabulation. This latter file can only be an example as it has no relevance to Australia.

**Group A5 - ARTIST**

The files in this group drop into those that should be used for screen display purposes only and those that can be printed - in fact only one is suitable for the latter purpose and that is called BORDERS. In this file is presented several borders (naturally!) around different seasonal greetings. The EXCHANGE file is particularly interesting. A Christmas Tree is initially displayed and with the use of the EXCH and FIND keys 'magical' things happen to the candles on the tree. DISPLAY is a file full of ... you've guessed it ... various screen displays showing what can be done.

**Group A6 - MONEY**

Three invoices are presented in this group with ideas on editing and saving vertical lines. Particular mention and use of Layouts is made in two of the invoices, This demonstrates the approach to getting a neat right justified description block within the invoice if the details cover several lines before the figures are entered.

**Group A7 - LABELS**

For those PCW users who have given up on trying to print addresses on envelopes, the Author of TempDisc suggests that if you have difficulty, try feeding the envelope into the printer with the flap open. There are four envelope templates each set at 22cm x 11cm. For labels there are two sizes: 3.5" x 1.5 and a much smaller version held in LAB'TINY. Some advice is given on how to deal with printing problems.

**Group A8 - MISC**

If you are a member of a committee or hold some other position that involves producing documentation in various forms, then you may find this last group of particular use and interest. It contains AGENDA which shows a fully tabulated sample agenda (plus invitation to the meeting), with header and footer zones and automatic page numbering. Then follows MINUTES, again with the headers and footers zone

```

John Harris & Sons
45 Harbour Walk
Exmouth Devon EX8 1AZ
TELEPHONE Exmouth 4040404
-----
YACHT BROKER                SPECIALIST IN TRAILERS        FINANCE A PLEASURE
    
```

```

KEN ARMSTRONG                Tel. Shrewsbury (1) 887878
-----
                                25 Bristol Road
                                Some District
                                Shrewsbury
                                SW1 1PQ
-----
MORTGAGES                Financial Consultant        INSURANCE
    
```

```

-----
Teenage Stamps                Family Occasions        Children's Parties
-----
◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎
    . . . DEEJAY DISCO . . .
◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎◎
Telephone 72345                1987
-----
Don Sanders-Smith
"Stanford Bridge"
Upton Pyne Avenue
Chipping On Block
Hampshire 28L 1RX
    
```

```

Thurston Brown Associates                Micro Support
-----
BRIAN T WORTS M I Ex. F. I. Ex. A        18 Danby Terrace
DAVID J D BROWN B.Sc                TELEPHONE (0295 277496)        Exmouth EX8 1QG
-----
(Genuine Address)
    
```

▲ Some sample letterheads from HEADERS

including a double underlined heading and page numbering at the bottom centre of the page.

LEAGUE#1 is a league table of sixteen teams with a distinction between home and away results and goals. LEAGUE#2 shows twelve teams without the previous distinctions. INVITE has three pages, the important part being on page 2 where appears two Party Invitations.

**Summary**

Recommended. There is no doubt that with TempDisc the 'wheel' has already been invented for you. It is full of ideas and files that you can tinker with to produce something that not only looks professional but can be easily tailored to suit your own needs. Whilst the whole

flavour of TempDisc is so obviously English in the examples presented, the author, Brian Thurston, is keen to develop the package to suit the needs of as many users as possible in as many countries as possible. The documentation on disc is liberally peppered with his address and any comments, advice or even templates are requested for which, in most cases, a payment in one form or another is made.

*TempDisc costs \$49.95 and is available from your local dealer or Amsnet International on (075) 321465.*



# MASTERFILE 8000

FOR ALL AMSTRAD PCW COMPUTERS

MASTERFILE 8000, the subject of so many enquiries, is now available through The Amstrad User from Campbell Systems in the UK.

MASTERFILE 8000 is a totally new database product. While drawing on the best features of the CPC versions, it has been designed specifically for the PCW range. The resulting combination of control and power is a delight to use.

Other products offer a choice between fast but limited capacity RAM files, and large capacity but cumbersome fixed-length, direct access disc files. MASTERFILE 8000 and the PCW RAM disc combine to offer high capacity with fast access to variable-length data. File capacity is limited only by the size of your RAM disc.

A MASTERFILE hallmark is the provision of multiple, user-designed display formats. This flexibility remains, but now it's even easier. With MASTERFILE 8000 you design your formats "live"; no more questionnaires, just move your format effects around the screen using the cursor keys!

Record updating is even easier than before - just steer your cursor to any field on the screen and then insert/erase/alter as required.

Special options are provided for handling dates and surnames, and column totals can be generated.

All screen work is done graphically - and hence we offer unique panel, box, and ruled line options. Choose the line spacing at pixel resolution - you will be amazed how much clearer 9-pixel lines are than the usual 8-pixels. (Study the picture.) And all this faster than CP/M normally lets you paint the screen! PCW printer functions, under menu control, are provided.

Any file can make RELATIONAL references to up to EIGHT read-only keyed files, the linkage being effected purely by the use of matching file and data names.

You can import/merge ASCII files (e.g. from MASTERFILE III), or export any data (e.g. to a word processor), and merge files. For keyed files this is a true merge, not just an append operation. By virtue of export and re-import you can make a copy of a file in another key sequence. New data fields can be added at any time.

File searches combine flexibility with speed. (MASTERFILE 8000 usually waits for you, not the other way around.) You can even assign subsets of a file into one or more of seven pigeon-holes for subsequent reference or further manipulation.

**Megaglomerate Ltd**

Sales Contact : Martin McManic  
Telephone : 0245 654321  
Reference : MGL  
Date of last order : 14 Aug 86  
Value to date : £31,455.00

Mega House  
143-145 London Road  
Chelmsford  
Essex CM12 5EG

Ref	Maker	Model	Specification	Price ex VAT
		FX85	100cps 40MLD 00col	£310
		FX105	150cps 40MLD 132col	£410
		FX100	100cps 132col	£410
		FX100	100cps 20MLD 00col	£435
		FX100	100cps 20MLD 132col	£575
		FX100	100cps 40MLD 00col	£395
		FX100	100cps 40MLD 132col	£275
		FX100	100cps 40MLD 00col	£395
		FX100	100cps 40MLD 132col	£225
		FX100	100cps 40MLD 00col	£270
		FX100	100cps 40MLD 132col	£410
		FX100	100cps 40MLD 00col	£410
		FX100	100cps 40MLD 132col	£230
		FX100	100cps 40MLD 00col	£350
		FX100	100cps 40MLD 132col	£1,795
		FX100	100cps 40MLD 00col	£2,100
		FX100	100cps 40MLD 132col	£1,900
		FX100	100cps 40MLD 00col	£285

Hi - help on 012  
Drive: A File: HARDWARE Record: 00021 Selected: 00021 In: Ref  
Format: 1

Customer Details and Invoices

British United Freight  
493 Western Avenue  
Gloucester  
GL9 5JN

Tel: 0452 654321  
Contact: Mike McManic  
Ref: BUF

03: Display Options  
Steer using ..... F1-F4  
Alter data ..... F5-F8  
Erase data ..... DEL  
Assign to set ..... A  
First page ..... B  
Next page ..... ENTER  
Find key = 01-25 ..... F  
Go to record number ..... G  
Print ..... P  
Print single record ..... R  
Erase record ..... E  
Insert new record ..... I  
Show re-sequenced ..... K  
Rotate format ..... S  
Go to search ..... C  
Exit to main menu ..... X

Invoice	Tax point	Amount	Date paid	Comments
12004	20 Aug 87	£235.00	02 Oct 87	
12399	29 Aug 87	£38.00	02 Oct 87	
12450	01 Oct 87	£305.00		re
12453	21 Oct 87	£133.00		
12533	03 Nov 87	£1,004.50		
12598	10 Nov 87	£355.65		
12703	11 Nov 87	£200.00		
12782	11 Nov 87	£39.20		
12839	04 Dec 87	£083.55	04 Dec 87	Cash with order
Totals:		£3,253.90		

Date of invoice

Drive: A File: INVOICES Records: 00017 Selected: 00009 New: Format: 1

MASTERFILE 8000 is totally menu-driven, fully machine-coded, and comes with example files and a detailed manual. We claim (modestly) that you will not find another filing system with such power, flexibility, and friendliness.

MASTERFILE 8000 costs \$109.00 including postage and packing, and if you request air-mail within Australia, we'll do that at no extra charge too! (If you live outside Australia please add \$4.00 for air-mail cost.)

Bankcard, Mastercard or Visa orders are welcome, written or telephoned, quoting the card expiry date.

Send your order now to:  
**THE AMSTRAD USER**  
Suite 1/245 Springvale Road,  
Glen Waverley,  
Victoria 3150  
Tel: (03) 233 9661

Keyed files are maintained automatically in key sequence, with never any need to sort. You can have unkeyed files too, where records can be inserted at any point in the file.



# Sage - a wise move?

For those contemplating the purchase of an accounting package, we look briefly at two at different ends of the scale

Sagesoft has long been a producer of business applications for Amstrad computers - Sage Popular Accounts and Sage Invoicing for the 6128 and PCW to name just two proven packages. The arrival of the PC1512 has enabled Sage to expand their range. This month we describe two packages at either end of that range.

## SAGE BOOKEEPER - \$299.00

At the lower end, Bookkeeper is an integrated package designed for the small business person who really hasn't got time or the knowledge to worry about producing a final set of accounts. The idea behind Bookkeeper is to produce sufficient records of the business which are then handed to a qualified accountant to prepare the final accounts. This effectively means producing a trial balance which will show whether or not all transactions have been correctly "pigeon-holed" and balance each other. Although it can be run independently, Bookkeeper is one of three packages for the PC1512, the other two being Accountant and Accountant Plus. These last two are more complex accounting systems but all are upwards compatible.

More than one company or trading name can be operated with Bookkeeper, simply by having a set of discs for each and each system can be pass-word protected.

Being fully integrated, the creation of a single transaction (eg. Sales Invoice) is automatically reflected in all the relevant ledger accounts. From these can be produced various analyses - profit and loss, Creditors, Debtors and sales tax.

Like most user-friendly packages, Bookkeeper is menu-driven with sufficient error-traps and facilities to make amendments. Reports important to cash flow requirements like Credit Control or Tax liabilities are included in the Main Menu so that the user can either rejoice or cry whenever that facility is selected and printed.

The manual is clear and concise with a useful, simple tutorial which goes a long way to instructing the user in the basics of accounting.

*For more details on Bookkeeper contact your local dealer or Personal Computer Software: 68 Alfred Street, Milsons Point, NSW 2061 or ring on (02) 923 2899*

## SAGE FINANCIAL CONTROLLER - \$1499.00

At the other end of the scale is this package, a totally integrated business control program taking Debtors and Purchase Ledgers couples to full order processing and stock control; all linked automatically to a powerful General Ledger and providing many areas of analysis. It is not available in modules, but you can ease yourself into the package by starting with just the Debtors Ledger and Sales Order Processing and go on from there. It is recommended that a hard disc be used with this package.

It is available in both single- or multi-user versions, both of which are compatible, so an expansion to a multi-user environment later on will cause no problems. The multi-user version has a file and record locking feature that inhibits conflicts between users during operation.

### Report Generator

Naturally, there are a number of pre-designed report essential for running a business efficiently. However, Report Generator is the tool which will access and print any piece of information stored in the system, and in any format desired. This means that you can design and produce one-off reports (or save the format if you need them more often) such as customers in excess of their credit limit, picking lists, customers by turnover etc.

### Text Editor

This feature allows you to mail personalised letters to customers, again, in any format you wish. Coupled with the Report Generator, reports can be 'dropped' into letters if necessary.

### Quick Ratio

This is an indicator to the company's health. It provides a snapshot of the company's cash and receivables less all its debts and current liabilities although you can include or exclude whichever elements you wish.

### Debtors Ledger

It's an open item system - a must for keeping track of a customer's account. The number of customers is limited only by the size of your disc. The system allows for a Sales Day Book, Aged debtor analysis (on screen or printer), Sales Tax analysis and a mass of other features normally expected with a sophisticated package such as this.

Cash allocation can either be manual or automatic, with part-payments presenting no problems. Credit limits are



recorded for each customer and from this chasing letter can be produced. Of course, a full customer account history is maintained.

### Standard Print-outs

- \* Age Debtor Analysis - includes YTD turnover and credit limit.
- \* Printed Customer list or labels
- \* Customer History/Ledger card
- \* Sales Day Book
- \* Debtor balance listing

Account History		Financial Controller		Date : 180185			
A/C Ref :	<input type="text" value="AXGRO"/>	A/C Name :	<input type="text" value="Axgro Foods Ltd"/>				
No	Tp	Date	Ref	Details	Value	Debit	Credit
1	SI	040185	S1265	Computer	402 50	402 50	
5	SI	110185	S1269	Business Software	97 75*	97 75	
13	SR	180185	chq123	Sales Receipt	402 50		402 50
Amount Outstanding :					<input type="text" value="97.75"/>		
Amount paid this period :					<input type="text" value="402.50"/>		
Press <input type="button" value="ESC"/> to finish, <input type="button" value="RETURN"/> to continue							

### Creditors Ledger

As most would know, the Creditors Ledger is similar in operation in many respects to the Debtors Ledger - it just happens on the other side of the column! Detailed information about suppliers and the state of their accounts is important when making buying decisions and even more important when deciding who should be paid, especially if there is a cash flow problem.

### Standard Print-outs

- \* Age Creditor Analysis including YTD turnover
- \* Printed supplier list or labels
- \* Supplier History/Ledger card
- \* Purchases Day Book
- \* List of creditor balances

### General Ledger

Here, the transactions and balances from all the other elements of the accounting system are collated and from

Account History		Financial Controller		Date : 180185			
A/C Ref :	<input type="text" value="1000"/>	A/C Name :	<input type="text" value="Hardware Sales"/>				
No	Tp	Date	Ref	Details	Value	Debit	Credit
1	SI	040185	S1265	Computer	350 00		350 00
3	SI	040185	S1267	Computer	350 00		350 00
4	SI	110185	S1268	Computer	255 45		255 45
8	SI	180185	S1272	Computer Printer	180 00		180 00
9	SI	180185	S1273	Computer Printer	180 00		180 00
11	SC	180185	S1268	Damaged Computer	50 00	50 00	
Totals :					<input type="text" value="50 00"/>	<input type="text" value="1315 45"/>	
Balance :					<input type="text" value="50 00"/>	<input type="text" value="1265 45"/>	
Press <input type="button" value="ESC"/> to finish, <input type="button" value="RETURN"/> to continue							

which are produced the key Profit & Loss and Balance Sheet reports. Being fully integrated, the General Ledger always produces an accurate and up-to-the-last-transaction position. It provides a full Cash Book and Petty Cash Book facility, monthly and annual budgeting, departmental analysis, multiple company consolidations, automatic trial balance and so on.

### Standard Print-outs

- \* Monthly accounts
- \* Quick Ratio report
- \* Budget variance report
- \* Audit trail
- \* Journal entries day book
- \* Control account histories - debtors, creditors, bank, petty cash, sales tax
- \* Trial balance
- \* General account history
- \* General account listing

### Order Processing and Invoicing

This element contains all the features you would normally expect to find in a modern, computerised system. The Order Processing element interacts with the stock control system whether or not it is being used for true stock control or simply as a stock record file. Stock allocation can be either automatic or manual with facilities for back/outstanding orders. During invoicing the operator is alerted if an account exceeds its credit limit. Stock item descriptions have a generous 30 characters allocated which should allow enough for even "Three inch left handed Widgets".

### Standard Print-outs

- \* Categorized list of all orders entered
- \* Order acknowledgment document (free format)
- \* Invoice and despatch note (free format)
- \* Full audit trail confirms ledgers update.

### Stock Control

There is not much that this element doesn't cover. It provides for 90 stock categories, three rates of discounts, re-order levels, sales statistics and stock explosion. It operates on a 'first in - first out' basis which ensures that those customers who order first get the first bite of the available stock. Getting a little more complex, it also allows for stock transfer to move finished goods from component level, shows finished goods in stock plus calculates the ability to make-up from components held. Stock items can be recorded as units or fractions.

### Standard Print-outs

(All produced in alphabetical order by stock item, or in category order)

- \* Stock details
- \* Stock movement history
- \* Stock valuation
- \* Stock profit; month and YTD
- \* Stock component explosion
- \* Re-order reports

For more details contact your local dealer or ring Personal Computer Software on (02) 923 2899



# Compatibles Corner

More on the Public Domain front

from Chris Collins

Hello, and welcome once again to all you PC owners. This month I have finally got hold of PC Write version 2.70, and I will be telling you about it later. First, however, I have to answer a question - "What is Public Domain?" especially in reference to the disc I have been offering.

The Public Domain is a collection of programs that have been written by professional programmers, who for one reason or another cannot (or do not want to) sell any programs they write. It also contains programs by other people, not necessarily professionals, who have written something they believe to be useful and have allowed it to be released into the public domain in the hope that someone else may also find it useful. These might be good or bad programs. It is a lot like a trash and treasure market. There is also usually more than one version in any PD library. So, it then supposes that there are some real gems available, but by the same token there must also be a lot of garbage. If you buy a PD disc from a PD library, chances are that anything up to 50% of the programs on that disc will be rubbish. The disc that I have been offering excludes the rubbish, as I have spent a lot of time weeding out the irrelevant and time wasting programs to leave you only the best of the programs that are available. I hope this explains it for you.

Now on to PC Write. It has taken me a while to get hold of PC Write Version 2.70. This program has grown in complexity and power, until in it's latest guise, it is considered a worthy competitor to such expensive programs as WordPerfect, Microsoft Word and XYWrite III.

In comparison with the above products, the pittance that you pay for PC Write will get you a feature filled word processor that will do things like create footnotes, indexes, tables of contents, can mail-merge and even has form letter functions. This latest version also contains a spelling checker, so it loses almost nothing when compared to the above programs. In the latest guise, it still uses a separate printing program and is still limited to file sizes of only 60k.

All word processors need some way of entering commands. WordPerfect uses function keys, and Microsoft Word uses menus. PC Write can do either. Whilst learning to use PC Write, you can use the menus to help you find your way around. As you become more familiar, you can bypass the menus and enter the commands direct from the keyboard. This also makes PC Write operate much faster.

PC Write can carry out almost any print formatting function that you would like it to do, although it cannot show all of these on the screen. PC Write is not entirely a what-you-see-is-what-you-get program, although it does show true endings

of lines, even if you change font sizes.

This latest version of PC Write contains a built-in spelling checker, which can operate in real-time mode. All this means is that it is possible to set up the program to check your spelling as you type and beep if you make a mistake. PC Write also supports a phenomenal range of printers, more than any other program that I have seen. There are over 300 printers listed in the impact and dot-matrix range. Even larger laser printers are supported.

Unlike most PC users, you do not have to worry about not having enough memory to run PC Write. PC Write requires at least 320k to be able to use the spelling checker, and this is way below capacity of your PC1512. Although you have more than the required 320k in your machine, you will still be limited to 60k files, but this is not really much of a hurdle as PC Write can link shorter files together at print time.

PC Write gives you a remarkable range of cursor movement options. These include letting you move the cursor by the sentence or paragraph, as well as by line, letter or word. With a single keystroke, it is possible to transpose letters or change it's case. There is also a mouse driver program code on the disc, however this must be compiled by the mouse manufacturer supplied software, so unfortunately is not much use.

Unlike most modern word processors, PC Write uses a separate program for the editor and another for the print formatter. You can access the print formatter from the DOS command line or from inside the editor, but you can't operate both at the same time unless you have a print buffer fitted.

The print formatter makes very extensive use of dot commands to control the finished printed product. Dot commands consist of a dot or period embedded in the text, and followed by a command and variable. This is the same as WordStar, and you must learn to use these commands to control the advanced printing power of PC Write.

PC Write's spelling checker is very fast to use, as PC Write loads the whole 50,000 word dictionary into memory. However, it can suggest some weird recommendations for mis-spelled words, so be careful. Once you get used to the beep, the real-time mode of the speller can provide valuable assistance whilst writing.

Documentation on the diskettes includes an abbreviated manual and a tutorial. After you register your copy, if you wish, you will receive a typeset 340 page manual that includes a full index, and also provides full instructions for learning the program. You will also receive two reference sheets that are crammed with command listings. On-line help has been much improved over Version 2.55. There are now



over 45 help screens available, although these are not context sensitive. You must first select the help screens, then pick a topic to get the necessary help. These screens have been much reorganised, but still struggle to keep up with the sheer number of commands that are available.

Beginners to word processing will almost certainly need to register and get the printed manual to get the best out of PC Write. However, advanced users might find the on-disc documentation adequate. There is no disc-based tutorial available for PC Write. While the basics of PC Write can be learned by anybody without a great deal of difficulty, the advanced features that are available will take a lot of learning. The program will appear to be overloaded with a mass of commands, but the power is available for those that wish to learn how to use it.

When you make a mistake, both PC Write's editor and print formatter will display error messages and recovery messages across the top of the screen. When you start work with the editor, it allows you a choice of whether you make a backup copy of your file or not. If you leave the editor, it will automatically save your work, unless you specifically tell it not to. You can also tell the editor to save your file after a certain period of time, or after a certain number of characters have been typed.

On the two diskettes are all the programs that you require to operate PC Write. To make things even easier for you,

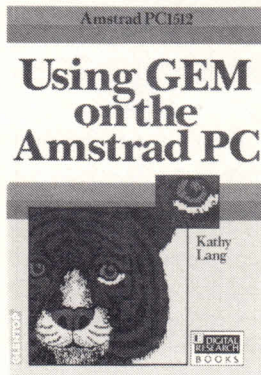
there is a file called workdisc, that will create and copy the necessary files onto another disc for you to use. You must use this program, otherwise it will not create the printer driver that you need.

Simply type WORKDISC B: at the DOS prompt and answer the questions that PC Write puts to you. You will be asked if you want the help screens, whether you wish to run PC Write in colour, what printer you wish to use and whether you want the spelling checker on the same disc. You then put away your original diskettes, and use the work diskette you have just created.

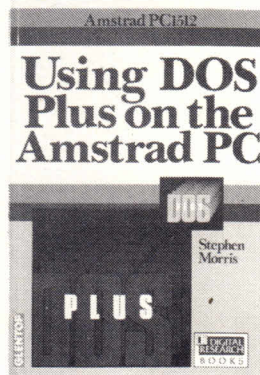
PC Write's old fashioned but useful dot commands, 60k file limit and slightly limited spelling checker are more than offset by the sheer power, speed and extraordinary control over the final product that is available. Despite it's few faults, I consider PC Write to be a first rate program. It is one of the programs responsible for the increasingly positive response to the shareware industry and rates as a true bargain in today's computer industry.

*Footnote: If you cannot get a copy of PC Write, send me a cheque or money order for \$20 dollars to cover postage and handling, and I will forward you copies of the two diskettes within 14 days.*

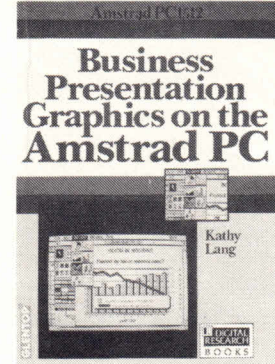
Send to: C.J. Collins  
c/- The Amstrad User  
1/245 Springvale Road  
Glen Waverley 3150



**Using GEM on the Amstrad PC1512** is an introduction to users who will be working with GEM and GEM-based products. It expresses things very much in terms of users and their objectives, concentrating on how to get things done using GEM and assumes little or no knowledge of computers. The book contains many informative illustrations. Normal Price \$55.00 + p&p  
Subscribers Price \$50.00 + p&p



**Using DOS Plus on the Amstrad PC1512** concentrates on getting things done using DOS Plus operating system supporting both MS-DOS and CP/M applications. It goes through the basics of file copying, deleting and organisation, through tree-structured directories, batch commands and print queueing and then on to advanced DOS commands. Normal Price \$39.95 + p&p  
Subscriber Price \$37.95 + p&p



**Business Presentation Graphics on the Amstrad PC1512** describes how the GEM application programs, such as GEM Graph, GEM Draw, GEM Paint, GEM Write and GEM Word-Chart can be used to produce visual business presentations effectively. It includes many informative diagrams plus helpful summaries and checklists. Normal Price \$55.00 + p&p  
Subscribers Price \$50.00 + p&p



# Towers of Hanoi

A BASIC version from Petr Lukes

Tower of Hanoi is an absorbing game (see brief description in the program). It is best implemented in languages which support recursion (a subroutine or procedure calling itself) with local variables, such as PASCAL, LOGO, or BBC (Acorn) BASIC. A LOGO version by J. Hughes appeared in TAU, March 86, and the HISOFT PASCAL manual has its own version.

Our BASIC allows recursion, but does not support local variables. The problem can be overcome by programming a software stack which holds the local values while the routine is active, removing them on exit. This technique was used by Michael Byrne in his implementation in Tandy Model I BASIC, published in the (now defunct, I believe) MICRO-80. It can overcome one of the major shortcomings of traditional BASIC.

Recursion is very difficult to explain. Briefly, the routine keeps on calling itself, building up the local variables and RETURNS, until a certain condition is reached. It then starts unwinding, executing the instructions which follow the GOSUB. The program has a provision for single-stepping through the disc moves and displays the stack as it is changing, and this could help to clarify the workings.

The program comes in two parts: part one has the setting up routines and the recursive and manual modes, and will run as it is; part two contains two other implementations I have come across, and is intended to be merged with part one.

## Bibliography:

W.L. SCHAAF, *Number Games and Other Mathematical Recreations*, in *Encyclopaedia Britannica, Macropædia vol. 13, 15th ed.*, 1974.

### Part 1:

K.L. BOWLES, *Problem Solving Using PASCAL*, Springer-Verlag, 1977.

*Algorithm, explanation and tracing of recursion in UCSD PASCAL.*

Michael BYRNE, articles in MICRO-80 (Goodwood, S.A.): Nov 1981 (recursive algorithm) and Apr 1982 (recursion).

### Part 2:

Boris ALLAN, article in PERSONAL COMPUTING (U.K.): Sept 1982 (bitwise algorithm).

Michael JAMES, article in AUSTRALIAN PERSONAL COMPUTER: Dec 1986 (recursion) and Jan 1987 (iterative algorithm).

```
10 MODE 2:PRINT"Tower of Hanoi in BASIC":PRINT"by recursion
with local variables, by iteration, by bitwise method LK
S 870603"
```

```
20 PRINT:PRINT"INSTRUCTIONS":PRINT"The tower is made up of
the selected number of discs of diminishing size,":PRINT"
stacked on one of three pegs."
```

```
30 PRINT"The tower must be moved, disc by disc, from the s
ource peg to another peg,":PRINT"without placing a larger
```

```
disc on top of a smaller one."
```

```
40 PRINT:DEFINT a-z:discs=0:WHILE discs<1 OR discs>13:INPU
T"How many discs (1 to 13) ";discs:WEND:discn=discs-1
```

```
50 srce=1:dest=2:aux=3-(srce+dest)'Starting parameters; so
urce and destination may be changed, but must be in the ra
nge 0 to 2 and not equal. dest and aux needed for recursio
n only
```

```
60 'srce=9:WHILE srce<0 OR srce>2 OR dest<0 OR dest>2 OR s
rce=dest:PRINT"Enter source, destination (0 to 2)":INPUT"(
source and destination must not be equal) ";srce,dest:WEND
:aux=3-(srce+dest)
```

```
70 DIM disc$(discn),discx$(discn),dln(discn),peg(2,discn),
onpeg(2)
```

```
80 DIM xp(2):xp(0)=14:xp(1)=40:xp(2)=66'x position of pegs
90 bline=16:mov=1:FOR a=0 TO 2:onpeg(a)=-1:NEXT a:onpeg(sr
ce)=discn
```

```
100 FOR a=0 TO discn:b=(3+2*a)\2:disc$(a)=STRING$(b,65+a)+
CHR$(9)+STRING$(b,65+a):discx$(a)=SPACE$(b)+CHR$(9)+SPACE$
(b):dln(a)=b:peg(srce,a)=discn-a:NEXT a'Assemble discs; ch
r$(9) advances cursor without erasing character under it
110 sl=0:WHILE sl<1 OR sl>4:PRINT:PRINT"Select:":PRINT" 1
Automatic recursive":PRINT" 2 Automatic iterative":PRINT"
3 Automatic bitwise":PRINT" 4 Manual":INPUT sl:WEND
```

```
120 'draw pegs and discs
```

```
130 CLS:PRINT" T O W E R O F H A N O I , "discs"discs.
Minimum moves :";2^discs-1" Source peg"srce:IF sl<4 THEN
PRINT" Automatic"sl" Pause by SPACE BAR"ELSE PRINT" Manual
, destination peg"dest
```

```
140 a#=SPACE$(xp(0)-1)+"0"+SPACE$(xp(1)-xp(0)-1)+"1"+SPACE
$(xp(2)-xp(1)-1)+"2":LOCATE 1,bline-discs:FOR a=0 TO discs
:PRINT a#:NEXT a:PRINT STRING$(80,"%");:PRINT a#
```

```
150 PRINT CHR$(24):FOR a=0 TO discn:LOCATE xp(srce)-dln(a)
,bline-discn+a:PRINT disc$(a):NEXT a:PRINT CHR$(24)'chr$(2
4) toggles inverse print
```

```
160 ti!=TIME:ON BREAK GOSUB 180
```

```
170 ON sl GOSUB 200,550,840,940
```

```
180 LOCATE 1,bline+4:PRINT USING"Time taken : #####.# secs
"+CHR$(20);(TIME-ti!)/300:WHILE INKEY#>":WEND'chr$(20) cl
ears to end of window
```

```
190 END
```

```
200 'Automatic recursive, after M. Byrne in MICRO-80, Nov
1981.
```

```
210 DIM sk(discs*4):sp=3:sk(sp-3)=discn:sk(sp-2)=aux:sk(sp
-1)=srce:sk(sp)=dest'Stack, needed for recursion only; ini
tial stack frame
```

```
220 GOSUB 240
```

```
230 RETURN
```

```
240 'Recursive routine
```

```
250 a#="add":GOSUB 450
```

```
260 IF sk(sp-3)<1 THEN st=sk(sp-1):dt=sk(sp):GOSUB 470:GOT
O 410'move disc, exit
```

```
270 'else clause
```

```
280 sp=sp+4'new frame: count,aux,srce,dest
```

```
290 sk(sp-3)=sk(sp-7)-1'new count=old count-1
```

```
300 sk(sp-2)=sk(sp-4)'new aux=old dest
```



```

310 sk(sp-1)=sk(sp-5)'new srce=old srce
320 sk(sp)=sk(sp-6)'new dest=old aux
330 GOSUB 240
340 st=sk(sp-1):dt=sk(sp):GOSUB 470'move disc
350 sp=sp+4'new frame: count,aux,srce,dest
360 sk(sp-3)=sk(sp-7)-1
370 sk(sp-2)=sk(sp-5)'new aux=old srce
380 sk(sp-1)=sk(sp-6)'new srce=old aux
390 sk(sp)=sk(sp-4)'new dest=old dest
400 GOSUB 240
410 'common exit
420 sp=sp-4'cancel frame
430 a$="sub":GOSUB 450
440 RETURN
450 'stack display
460 LOCATE 1,bline+4:PRINT"Stack "a$:FOR a=0 TO sp STEP 4:
PRINT USING" ## ## ## ## : ";sk(a);sk(a+1);sk(a+2);sk(a+3
);:NEXT a:PRINT CHR$(20):RETURN
470 'move disc : st=srce, dt=dest peg, set up by calling r
outine
480 a=onpeg(st):tdisc=peg(st,a):onpeg(st)=a-1
490 LOCATE xp(st)-dln(tdisc),bline-a:PRINT discx$(tdisc);'
erase
500 a=onpeg(dt)+1:peg(dt,a)=tdisc:onpeg(dt)=a:a$=CHR$(-24*
(dt=srce))
510 LOCATE xp(dt)-dln(tdisc),bline-a:PRINT a$ disc$(tdisc)
a$: 'draw
520 LOCATE 1,bline+3:PRINT USING"Move ##### : ! from # to #
";mov;CHR$(tdisc+65);st;dt;:mov=mov+1
530 WHILE NOT INKEY(47):WEND'pause by SPACE BAR, delete NO
T for single stepping by SPACE BAR
540 RETURN
550 PRINT"Automatic iterative implemented in Part 2"CHR$(2
0):END
840 PRINT"Automatic bitwise implemented in Part 2"CHR$(20)
:END
940 'Manual mode
950 WHILE NOT(onpeg(srce) AND onpeg(aux) AND onpeg(dest)=dis
cn)
960 st=9:WHILE st<0 OR st>2:LOCATE 1,bline+4:PRINT CHR$(20
);:INPUT"Enter from peg ";st:WEND
970 IF onpeg(st)<0 THEN PRINT"No disc on the peg !";:INPUT
a:GOTO 960
980 dt=9:WHILE dt<0 OR dt>2:LOCATE 1,bline+5:PRINT CHR$(20
);:INPUT"Enter to peg ";dt:WEND
990 IF st=dt THEN PRINT"Wasted move !";:INPUT a
1000 IF onpeg(dt)>-1 THEN IF peg(dt,onpeg(dt))<peg(st,onpe
g(st))THEN PRINT"Illegal move !";:INPUT a:GOTO 960
1010 GOSUB 470
1020 WEND:RETURN

```

↑ HANOI-A and HANOI-B ⇒

```

10 MODE 2:PRINT"Tower of Hanoi in BASIC":PRINT"by recursio
n with local variables, by iteration, by bitwise method LK
S 870603"
550 'Automatic iterative, by M. James in APC, Jan 1987. Ca
n stand alone with call to 'move disc' disabled and 'print
towers' enabled if given number of discs. Makes many unn
ecessary moves, 10 or more discs will cause overflow of cou
nter.
560 'Heuristics: (1) do not consider moving a disc just mo
ved (2) if there is a choice of legal moves, move to a pe
g closest to the destination peg
570 true=1:false=NOT true:halt=false
580 DIM pegs(3,discs),t(3):FOR a=1 TO discs:pegs(srce+1,a)
=discs-a+1:NEXT a:FOR a=1 TO 3:pegs(a,0)=999:t(a)=0:NEXT a
:t(srce+1)=discs
590 'loop
600 'GOSUB 630'print towers
610 GOSUB 720'find move
620 IF halt=true THEN 660
630 GOSUB 780'do move
640 GOSUB 470'move discs
650 GOTO 590
660 RETURN
670 'print towers
680 FOR b=discs TO 1 STEP-1:FOR a=1 TO 3
690 IF pegs(a,b)=0 THEN PRINT" :", ELSE PRINT pegs(a,b),
700 NEXT a:PRINT:NEXT b:PRINT:PRINT
710 RETURN
720 'find move
730 FOR a=1 TO 3:FOR b=1 TO 3
740 IF pegs(a,t(a))<pegs(b,t(b))AND om<>a THEN m1=a:m2=b
750 NEXT b:NEXT a
760 IF om=m1 THEN halt=true
770 RETURN
780 'do move
790 st=m1-1:dt=m2-1'parameters for 'move disc' only
800 pegs(m2,t(m2)+1)=pegs(m1,t(m1))
810 pegs(m1,t(m1))=0
820 t(m1)=t(m1)-1:t(m2)=t(m2)+1:om=m2:m1=m2
830 RETURN
840 'Automatic bitwise, after B. Allan in PRACTICAL COMPUT
ING (U.K), Sep 1982. Pegs are deemed to be on a circle.
850 dsc=0:msk=1'dsc=starting disc,msk=16-bit mask: 0000000
0 00000001
860 IF (msk AND mov)=msk THEN 890'mov is global move count
. Move disc when left-most bits of mov and msk coincide
870 dsc=dsc+1:IF dsc>discn THEN 930
880 msk=msk+msk:GOTO 860'shift mask bit left
890 FOR a=0 TO 2:b=onpeg(a):IF NOT b THEN IF peg(a,b)=dsc
THEN st=a
900 NEXT a'find peg with disc dsc
910 dt=st-1+(dsc AND 1)*2:dt=(dt+3)MOD 3'move clockwise (l
eft) if dsc even, anticlockwise (right) if odd
920 GOSUB 470:GOTO 850
930 RETURN

```



# Doing the rounds

Peter Douth draws on his experience and his Amstrad CPC664

When I first bought my Amstrad computer a friend of mine said to me, "Look it can even draw circles, using a single line of code." Back then the program looked like this:

```
10 MODE 2:DEG:FOR a=0 TO 360:PLOT((100*COS(a))
+320),((100*SIN(a))+200),1:NEXT a
```

Brilliant, I thought, what a nice circle. Twelve months later I was contracted to write a presentation program that would need to draw many circles at various points on the screen with various radii. So naturally I dug up the old one liner circle routine. Problem number one, it was TOO SLOW!!!

Putting every separate command on individual lines sped the program up a bit but not quite enough. Since I do a lot of work in Turbo Pascal on an IBM, I use the graphics toolbox package frequently. When it draws circles it looks as though it draws the four quarters at the same time. So it does.

Solution number one, use the rules of the symmetry of a circle, and using radians instead of degrees we can draw circle a very fast. So what are the rules of symmetry of a circle? I will explain.

The circle when drawn on the cartesian axis using the points (0,0) as the centre is divided into four quarters each quarter consisting of 90 degrees or  $\pi/2$  radians. (Refer to Fig 1.1). When we take the SINE of the angle 45 degrees, which lies in the first quarter or quadrant, we get the answer of 0.7071067 or in surd form  $1/\sqrt{2}$ . If we take the SINE of the angle 135 degrees or (100-45) degrees which is in the second quadrant we get the same answer 0.7071067. If we take the SINE of 225

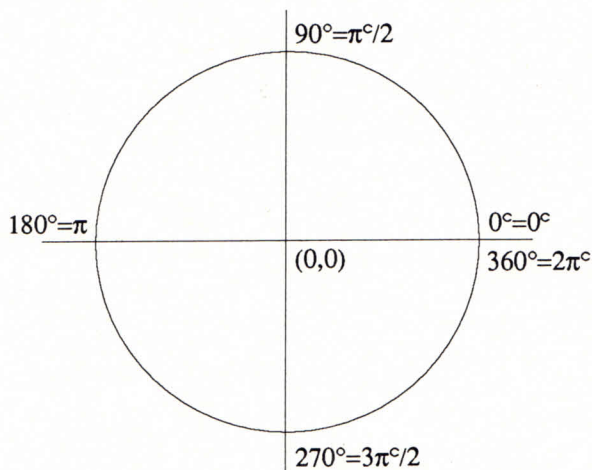


Figure 1.1

degrees or (180+45) degrees we get the answer -0.7071067 or in surd form  $-1/\sqrt{2}$ . If we take the SINE of the angle 315 degrees or (360-45) degrees we get the same as the SINE of 225 degrees. If you haven't already noticed we get the same answer except for the sign out the front: either -ve or +ve.

So the rule for the SINE values for the values between 0 and 90 degrees are the same in any quadrant except for the sign out front, and this rule also applies for the COSINE and the TANGENT of angles.

In the first quadrant the answer of the SINE, COSINE and TANGENT of an angle is always positive.

In the second quadrant all SINE values are positive, the COSINE and TANGENT values are negative.

In the third quadrant all TANGENT values are positive, the SINE and COSINE values are negative.

In the fourth quadrant all COSINE values are positive, and the SINE and TANGENT values are negative.

So how can we use this to our advantage? We know that the  $x=\text{COS}(\theta)$ ,  $y=\text{SIN}(\theta)$  where  $\theta$  is the angle in radians. Then if

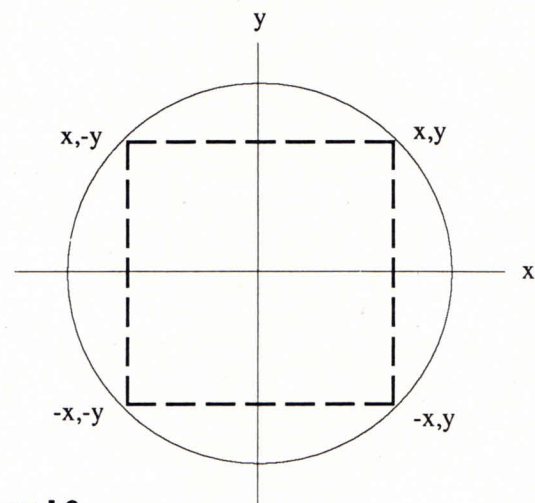


Figure 1.2

that is so, for the first quadrant of the circle the x and y co-ordinates will be positive, for the second quadrant the x co-ordinate will be positive and the y co-ordinate will be negative, and so on using the rules of symmetry. (Refer to Fig 1.2). By placing the rules for the x and y co-ordinates in a loop we get a finished program like Listing 1. The radius of the circle is held in the variable 'r'.

Listing 1 will draw a circle at a fast speed but still not fast enough. The reason that the program is so slow is that it takes



the computer a long time to work out the SINE and COSINE values, below is the formula the computer has to do to work out the SINE and COSINE of an angle, the angle must be in radians and is denoted as  $\theta$ .

$$\sin \theta = \theta - \frac{\theta^3}{3!} + \frac{\theta^5}{5!} - \frac{\theta^7}{7!} + \frac{\theta^9}{9!} - \frac{\theta^{11}}{11!} + \dots \text{ and so on.}$$

$$\cos \theta = 1 - \frac{\theta^2}{2!} + \frac{\theta^4}{4!} - \frac{\theta^6}{6!} + \frac{\theta^8}{8!} - \frac{\theta^{10}}{10!} + \dots \text{ and so on.}$$

Surprisingly enough the above formulae give you a number accurate to 5 decimal places, but the computer's answer is more accurate. In Listing 1 the computer had to calculate the SINE and COSINE of an angle with 90 different angles to do. You could use the formulae for sum of angles but after experimenting I found it to be a little slower.

Solution number 2 - create an array holding all the values necessary and then use this array to plot the points. This is what I have done in Listing 2 which finds the SINE and COSINE of the values between 0 and  $\pi/2$  radians and saves them onto disc. The file saved is approximately 2.5 K long. Listing 3 loads back in the SINE and COSINE values and then multiplies each x and y value by the radius to get the points plotted, it then stores them in memory starting at location 42419 and ending at 42600. When the computer actually plots the circle it just plucks the values out of memory and by using the rules for the symmetry of a circle, plots the circle. This method is at least 2 seconds faster than the method used in Listing 1. It is a good method to use in a drawing program as the values are always in memory, however if you want to draw another circle of different radius you will have to re-run the whole program. You can overcome this problem by keeping the values loaded in off the disc in an array so that you can act on it at any time, however I found this sort of routine to be a little slower by about 0.4 of a second. For your convenience I have written that program and it can be found as Listing 4. If you were to incorporate it into your own program you would load up the data file first and then every time you wanted to draw the circle you would start the execution at line 120, providing that you have loaded up the data file first.

In all four listings, if you change the word PLOT with the word DRAW you will get a filled circle. Last but not least, if you have a faster circle routine send it in, I would be very interested!

#### Listing One

```
10 '
20 ' ---- Four Quad Circle ----
30 ' ---- Using Radians ----
40 '
50 MODE 1:r=100
60 ORIGIN 360,200:MOVE 0,R
70 t=TIME
80 FOR a=0 TO PI/2 STEP PI/180
```

```
90 c=r*COS(a)
100 s=r*SIN(a)
110 PLOT s,c
120 PLOT s,-c
130 PLOT -s,-c
140 PLOT -s,c
150 NEXT
160 ty=(TIME-t)/300
170 PRINT ty;"secs to draw"
180 END
```

#### Listing Two

```
10 '
20 ' DATA SAVER - For Circle Re-Draw.
30 ' (c) 1987. Date: 01/09/87.
40 ' By PETER DOUTCH.
50 '
60 OPENOUT "circle.dat"
70 count=1
80 FOR radians=0 TO PI/2 STEP PI/180
90 x=COS(radians):y=SIN(radians)
100 WRITE#9,x,y
110 count=count+1:NEXT
120 CLOSEOUT:PRINT count
130 END
```

#### Listing Three

```
10 '
20 ' QUICK DRAW CIRCLE.
30 ' (c) 1987. Date: 01/09/87.
40 ' By PETER DOUTCH.
50 '
60 MODE 1:ORIGIN 320,200
70 OPENIN"circle.dat":radius=100
80 FOR count=42419 TO 42599 STEP 2
90 INPUT#9,x,y
100 x=CINT(x*radius):POKE count,x
110 y=CINT(y*radius):POKE count+1,y
120 NEXT count:CLOSEIN
130 CLS:PRINT TAB(9);"PRESS ANY KEY TO DRAW":WHILE INKEY#="" :WEND:CLS:t=TIME
140 '
150 ' Draw Actual Circle
160 '
170 FOR c=42419 TO 42599 STEP 2
180 x=PEEK(c):y=PEEK(c+1)
190 PLOT x,y
200 PLOT -x,y
210 PLOT -x,-y
220 PLOT x,-y
230 NEXT
240 t1=TIME:tt=(t1-t)/300:PRINT tt;"secs to draw" →
```



# Adventurer's Attic

More on Adventure bases with Peeking and Pokeing thrown in for good measure

by Philip Riley

Things have been rather busy this month up here in the Attic. As you can see we have listings, listings and more listings. It's very strange but I started off with just one listing, then one thing led to another and I ended up with six. As a result I have not got the room to put in the sentence input routine so I shall hold it over until next month. Now onto this month's routines. >>>

## Listing Four

```

10 '
20 '   QUICK DRAW CIRCLE / SLIGHTLY SLOWER.
30 '   (c) 1987. Date: 01/09/87.
40 '   By PETER DOUTCH.
50 '
60 DIM x(91),y(91)
70 MODE 1:ORIGIN 320,200
80 OPENIN"circle.dat":radius=100
90 FOR count=0 TO 90
100 INPUT#9,x(count),y(count)
110 NEXT count:CLOSEIN
120 CLS:INPUT"PLEASE ENTER DESIRED RADIUS :",radius
130 FOR count=0 TO 90
140 x(count)=x(count)*radius
150 y(count)=y(count)*radius
160 NEXT count
170 CLS:PRINT TAB(9);"PRESS ANY KEY TO DRAW":WHILE INKEY#=""
:WEND:CLS:t=TIME
180 '
190 ' Draw Actual Circle
200 '
210 FOR c=0 TO 90
220 PLOT x(c),y(c)
230 PLOT -x(c),y(c)
240 PLOT -x(c),-y(c)
250 PLOT x(c),-y(c)
260 NEXT
270 t1=TIME:tt=(t1-t)/300:PRINT tt;"secs to draw"
280 FOR count=0 TO 90
290 x(count)=x(count)/radius
300 y(count)=y(count)/radius
310 NEXT count
320 END

```

As promised, we are taking a look at an amended version of listing two from last month's column using only one string variable. If you can't remember what it's all about, see page 58/59 of Issue 31.....

OK, now that you have been reminded, the following is the new version:

## Listing 1

```

10 DIM a(30),b(20)
20 wo=0:s=44196:INPUT"what next";a$
30 FOR t=1 TO 30
40 a(t)=PEEK(s):s=s+1
50 NEXT:x=0:z=0
60 FOR t=1 TO 30
70 IF a(t)=32 AND x=0 THEN x=t-1
80 IF a(t)=0 THEN z=t-1:t=30
90 NEXT:IF x=0 THEN wo=1
100 q=0
110 FOR t=1 TO 20:b(t)=0:NEXT:t=1
120 READ dat:IF dat=999 THEN RESTORE:GOTO 20
130 IF dat<>0 THEN b(t)=dat:t=t+1:GOTO 120
140 co=0:co1=0:q=q+1:xxx=0:zzz=0
150 FOR s=1 TO t
160 IF wo=0 AND b(s)=a(s) AND xxx<>1 THEN co=co+1:IF co=x
THEN xx=q:xxx=1
170 IF wo=0 AND b(s)=a(s+x+1) AND zzz<>1 THEN co1=co1+1:IF
co1=z-x-1 THEN zz=q:zzz=1
175 IF wo=1 AND b(s)=a(s) AND zzz<>1 THEN co1=co1+1:IF co1
=z THEN zz=q:zzz=1
180 NEXT
190 IF wo=1 AND zz<>0 THEN PRINT"I understand the word.":E
ND
200 IF xx=0 OR zz=0 THEN 110
210 PRINT"I understand both words"
220 DATA 103,101,116,0,116,97,107,101,0,97,120,101,0,114,1
11,112,101,0,999

```

Now all you people out there in computerland who have just looked down the listing, spotted the PEEK and screamed; *Don't Panic*. Peeks and Pokes are easy when explained and you need not fear them anymore. So here goes with a quick explanation.

Think of your computer's memory as a row of numbered boxes. Each one of these boxes can contain a number between 0 and 255. These numbered boxes are in fact your



computers RAM which we all know is where your proggys are stored when you are working on the computer. When you type in a listing it is placed in the computer's memory as a series of numbers (you guessed it 0 to 255). By looking at these numbers the computer is told what to do.

So where does peek come into the picture? Try this little one liner without a line number:

```
?PEEK (44196)
```

You should get the number 63 on the screen. Now look up the ASCII character 63 in Appendix III of your 464 manual. You will find that it is the number of the ? symbol. The Peek command merely returns the number that is stored at a particular memory position (or little box, whatever you like to call them). Poke does entirely the opposite. It puts a particular value into a memory position. Try this little one liner with a line number:

```
10 ? PEEK (44200) :POKE 44200,44: ? PEEK (44200)
```

The second time that we PEEKed the memory position we got a different value to the first time because we poked a new value into it. I won't go on any further with this little lecture except to say that poking can upset the health of your computer. You may poke into the Basic and upset it. You can in fact get many strange effects on the screen or even lock your keyboard up by just randomly poking into memory. Never fear if you do though. Just turn the computer off and on again and your straddy will make a miraculous recovery. Always remember that you can do no harm to the workings of your computer from the keyboard (unless of course you hit it with a hammer that is!).

Now back to the proggy. What are we peeking here? We are in fact peeking into the keyboard buffer. Whenever you type something into the computer it gets put into the keyboard buffer as a temporary storage. We use the information in the buffer to help us avoid the dreaded string variables. So without further ado here we go with a breakdown of listing one.

Line 10 sets up two arrays.

Line 20 sets up a couple of variables and asks for an input.

Lines 30 - 50 are a loop that looks along the keyboard buffer using the variable s for the memory position to be peeked.

Lines 60 - 90 are a loop that now sorts out the two words. It does this by looking for a variable in a (n) that holds the value of 32. This is the ASCII code for a space. When it finds this value it knows that it has come to the end of the first word. It then sets the variable x to equal the amount of letters in the first word. It does exactly the same for the second word except that it is now looking for a value of 0 and it sets the variable z to equal the length of the second word.

We now know the length of both the words. But this routine will also allow you to input just one word. If only one word is found it sets the variable wo to equal 1 (wo=1) in line 90.

Lines 100 -130 read in data from the end of the program and checks to see if it is a 0 or 999, if not it loops back and reads another piece of data. Each time a new piece of data is read it is put into the array b(n). The zeros in the data signify the end of a word and the 999 signifies the end of the data. The other

numbers are the ASCII codes for the lower case letters. So we do in fact have the words GET, TAKE, AXE and ROPE in the data statements. When a zero is found the computer knows that it has found the end of a word and moves onto the next stage.

Lines 140 - 210 compare the two arrays together. If you have typed in two words then the array a(n) will hold two words and we must check both of these words against the word stored in b(n). If all of the variables match then the computer will know that it has a match.

If you type in two words you will finish up with two usable variables, xx for the first word and zz for the second. So if you typed in "GET AXE" xx would equal 1 and zz would equal 3. You can then use these variables in the rest of your program to decide if the person playing your game has typed in a valid command. If you only typed in one word you would only need to use the variable zz.

It was while I was writing this program that I had the idea for listing 2. Typing in all of the ASCII codes into the data was a pain. I was always having to look at the manual for the right code. So I had the bright idea for a proggy that would do all the hard work for me and here it is.

### Listing 2

```
10 CLS: DIM b$(40)
20 INPUT "Input word"; a$
30 IF a$="end" THEN 160
40 IF LEN(b$(y)) > 200 THEN b$(y) = LEFT$(b$(y), LEN(b$(y)) - 1) :
y=y+1
50 FOR t=1 TO LEN(a$)
60 a=ASC(LOWER$(MID$(a$,t,1)))
70 IF a < 100 THEN 90 ELSE 110
80 NEXT b$(y) = b$(y) + "0," : GOTO 20
90 b$(y) = b$(y) + CHR$(57) + CHR$(a-42) + ","
100 GOTO 80
110 b$(y) = b$(y) + CHR$(49)
120 IF a < 110 THEN m=0: b$(y) = b$(y) + CHR$(48) : GOTO 150
130 IF a < 120 THEN m=10: b$(y) = b$(y) + CHR$(49) : GOTO 150
140 b$(y) = b$(y) + CHR$(50) : m=20
150 b$(y) = b$(y) + CHR$(a-52-m) + "," : GOTO 80
160 b$(y) = LEFT$(b$(y), LEN(b$(y)) - 2) + "999"
170 OPENOUT "data": FOR t=0 TO 40: IF b$(t)="" THEN t=40: GOTO
190
180 PRINT#9, 1000+(t*10); "data "; b$(t)
190 NEXT: CLOSEOUT
```

I won't go into too much. You type in the words for your game one at a time as the computer asks. It takes the ASCII value of each letter of the word and stores it in the array b\$(n). If you type "end" the program will put the number 999 onto the end of the last piece of the array to be used and saves the whole lot to disc or tape as a proggy starting at line 1000. It is then already to be loaded and merged with your own game. It even puts in all of the zeros for you as well as the commas.

You may be wondering why I stored the ASCII codes in a string variable. Well I tried to save numeric variables and commas to



disc but always came up with one problem or another, the main one being that I always ended up with a lot of spaces between the commas and numbers. Anyway this system works extremely well so what are you complaining about.

Next in this little production line came listing 3. This one is only for the bods out there who have a printer, the rest of you will just have to go without. Merge this proggy in with the DATA proggy that you saved using listing 2 and run it. It will give you a printout of your words along with the number that the word is.

### Listing 3

```
10 CLS:y=1
20 READ a:IF a=999 THEN PRINT#8,y;" ";a$:a$="":END
30 IF a=0 THEN PRINT#8,y;" ";a$:a$="":y=y+1
40 a$=a$+CHR$(a):GOTO 20
```

Well that would have been the end of the story this month until the next three listings suddenly popped into my head. Why not, I thought when I first had the idea. What do they do? They do exactly the same as listing 1,2 and 3 but with a slight difference. They allow you to use only the first three letters of a word for the input. So in fact they are a mixture of last month's listing one and this month's listing one.

### Listing 4

```
10 CLS
20 INPUT"what next";a$
30 s=44196:q=0:wo=0
40 a1=PEEK(s):a2=PEEK(s+1):a3=PEEK(s+2)
50 s=s+2
60 a=PEEK(s):IF a=32 THEN a4=PEEK(s+1):a5=PEEK(s+2):a6=PEEK(s+3):GOTO 90
70 IF a=0 THEN wo=1:GOTO 90
80 s=s+1:GOTO 60
90 q=q+1:READ a:IF a=999 THEN RESTORE:GOTO 20 ELSE READ b,c
100 IF wo=0 AND a1=a AND a2=b AND a3=c AND x=0 THEN x=q
110 IF wo=0 AND a4=a AND a5=b AND a6=c AND z=0 THEN z=q
120 IF wo=1 AND a1=a AND a2=b AND a3=c THEN x=q:PRINT"I understand the word.":END
130 IF (wo=0 AND (z=0 OR x=0)) OR (wo=1 AND x=0) THEN 90
140 PRINT"I understand both words."
150 DATA 103,101,116,116,97,107,97,120,101,114,111,112,999
```

This one is a little easier than listing one as we know that we only need the first three letters of the words that are input, so we don't need to set a variable to the length of each word. We also don't need the zeros in the data statements because we only have the first three letters stored in the data so we just have to read the data in groups of three. You may notice that we read one piece of data first and check to see if it equals 999. If not we then read the other two pieces of data. This prevents data exhausted error occurring.

We have the same data in listing 4 as we do in listing 1. At the end of the program you will have two variables to use x for the

first word and z for the second. If you typed in only one word then you will only have the variable x to use.

### Listing 5

```
10 CLS:DIM b$(40)
20 INPUT"Input word";a$
30 IF a$="end"THEN 160
40 IF LEN(b$(y))>200 THEN b$(y)=LEFT$(b$(y),LEN(b$(y))-1):
y=y+1
50 FOR t=1 TO 3
60 a=ASC(LOWER$(MID$(a$,t,1)))
70 IF a<100 THEN 90 ELSE 110
80 NEXT:GOTO 20
90 b$(y)=b$(y)+CHR$(57)+CHR$(a-42)+", "
100 GOTO 80
110 b$(y)=b$(y)+CHR$(49)
120 IF a<110 THEN m=0:b$(y)=b$(y)+CHR$(48):GOTO 150
130 IF a<120 THEN m=10:b$(y)=b$(y)+CHR$(49):GOTO 150
140 b$(y)=b$(y)+CHR$(50):m=20
150 b$(y)=b$(y)+CHR$(a-52-m)+",":GOTO 80
160 b$(y)=b$(y)+"999"
170 OPENOUT"data":FOR t=0 TO 40:IF b$(t)=""THEN t=40:GOTO 190
180 PRINT#9,1000+(t*10);"data ";b$(t)
190 NEXT:CLOSEOUT
```

Listings 5 and 6 do exactly the same as listing 2 and 3 except they are for use with listing 4 and not listing 1.

### Listing 6

```
10 CLS:q=1
20 a$="":READ a:IF a=999 THEN END
30 READ b,c:a$=a$+CHR$(a)+CHR$(b)+CHR$(c):PRINT#8,q;" ";a$
:q=q+1:GOTO 20
```

Now a word of warning: the peeks in the programs are for a 464, if you own a 6128 or a 664 then the value of "s" in line 20 in LISTING 1 and line 30 in LISTING 4 should be changed to 44170. **You have been warned so please take heed.**

So until next month keep those letters coming in and don't give up on that adventure just yet, give it one last try. After all, real adventurers don't give up, do they?

## QUESTIONS & ANSWERS

Following on from last month when we gave you a summary of all the "still unanswered" questions that have been published over the last year, here is the list of answers to the balance of the questions during the same period. You'll also find some new question and answers.

### ANSWERS

Ian Byrne has given us a new way of getting back across the bridge in Classic adventure. When you find the bear type "GET BEAR" take him to the bridge and try to cross. You will



find that the troll will block your way. "DROP BEAR" and the troll will go for his life. Leave the bear there and you can cross the bridge anytime you want.

The BugBlatter Beast in Hitch-Hickers has been giving some people trouble so try this one. David Watt suggests that you wrap the towel around your head so the BugBlatter won't see you. You then scratch "ARTHUR DENT" on the monument. The Beast will think that he has killed you and go to sleep.

Steve Alatakis has given us plenty of answers for Subsunk so here goes.

Spill acid from the battery onto the hatch to open it.

Try "EMPTY BOTTLE" to get the pills out of the bottle.

Take map and stethoscope into the first Lt office. "WEAR STETHOSCOPE" and "OPEN SAFE".

Once you have attached the sucker to the broom typing in "PLUNGE BASIN" will unplug any sink in the bathroom.

The can clean up dust by typing "INSERT BATTERY" (when you have the vacuum and battery that is) "PRESS SWITCH" should get the vacuum going.

Steve also tells us that to use the key in Message from Andromeda type "INSERT KEY IN KEYHOLE"

Barry Eaton has some advice for using the raised dish in the same game.

You will find a similar dish behind the panel in the mirrored room. Point the crystal rod at the panel and it will slide open (The panel not the rod). You will now see the other dish sunk into a glass pedestal and containing a glowing sphere. Take this sphere to the other dish and place it upon it. Turn the sphere and a secret passage will be revealed.

Both Barry and J. Appleton have the answer for Justin Alcon who wanted to know how to get into the volcano in Forest at Worlds End.

Tie the rope to the rock that juts out over the mouth of the volcano (You will find the rope at the well in the forest).

Climb down the rope (We are told that it is slippery so be careful). At the bottom you will find a chest so don't forget to take the key with you.

John Dawson and Anthony Ahern both have this to say about The I.D card in Knight Tyme.

Some people have been having a little trouble with photos and I.D cards you will need the camera and the film that you can take from Gordon. Give both to SE E3 and ask SE E3 to help. He takes your photo. Take it from him along with the glue. You will be clumsy and spill the glue and - ta dah - your photo will be stuck onto the I.D card. "WEAR THE CARD" and you will be recognised.

#### MESSAGE and LORD OF THE RINGS problem

Now we have been requested by one of our readers to publish a message so here goes.

*KARLA SLACK WOULD LIKE TO THANK MR GEORGE MANN FOR HIS HELP.*

George helped Karla with a problem she had with Lord of the Rings. The next item also concerns Lord of the Rings. We have had complaints that it has locked up on some people and the game has had to be reloaded. This is a bug that we think has probably been carried over from the Hobbit as I remember a similar problem with that game. We did in fact inform Melbourne House of The Hobbit problem but it would appear that the bugs have remained. The only suggestion that we can make is that you try to steer clear of

using complex sentences when inputting your commands as this seems to make the game lock up more than anything else. Karla is also having trouble saving her position at the end of tape 1 of the tape version of L.O.R. Is she the only one or has anyone else had this trouble. The only suggestion that we can make is that she contact Melbourne House about this problem.

#### NEW QUESTIONS

First question is from Karla Slack and concerns Lord of the Rings. How can she get Gandalf to lead her through the mines of Moria?

Karla is also having trouble with The Never-ending Story. She would like to know how to get through or around Spook city?

Where can you find the Golden key and knife?

What use does the fragment of glass and the cape have?

Staying with The Never-ending Story, Boaz Kogon is stuck on level three. He has managed to enter the tower but would now like to get past or around the maze. Boaz would also like to know what use the apple on the tin has?

This next question is a bit vague. It seems that Evette Gale has completed 4% of Warlord and can get no further. Perhaps you could send us some more information of your plight Evette.

Now I have a question concerning Mordons Quests. I have got as far as Tarzan without too much trouble but I am just about pulling my hair out trying to find out who the Lord of the jungle is. Someone out there must know.

#### NEW ANSWERS

In answer to K. Rigby's question concerning The Never-ending Story, we had answers from Boaz Kogon and Evette Gale. What ever you do don't take Artax into the swamp with you. You can also circle around the tower, find the hunting horn in the forest and then go to the silver mountains and get the crystal. Go to the impassable desert, blow the horn and type in "Falkon fly South". He will then take you across the desert.

Now I would like to make a request to people who write in with questions. If you solve the problem with your game before we publish the answer we would like to hear from you so we can in fact publish the answer for anybody else who may be reading the column each month just waiting for that particular answer.

#### REALLY OLD QUESTIONS

Here are a few unanswered questions that we would like to bring to everybody's attention. As far as we know K.L. Lane is still stuck in the Southern desert of King Solomon's mines. (He has been there since May 86, how much can one adventurer take I ask myself?)

How do you get past the locked door in Jewels of Babylon and is there a quick way to the cannibals village?

How do you get past the top security area that is covered by T.V. scanners in Seabase Delta?

In Morgons Quest how do you get past the octopus and the invisible barrier? What do you say to the robot in the tele-video room and what does the ingot do?

We do have a lot more but I am fast running out of room so we will publish a few more next month.



# Hot Tips

## For Hackers only

The section that brings the CPC's darkest secrets to light. If you don't understand what's written here, bad luck. You'll get no explanation, for this is where the hackers hang out.

### Bar-CPM to execute a file

Many readers have asked whether it is possible to run a file by issuing the |CPM command. As if that weren't enough of a challenge, others have requested a routine that runs a Basic file when you type |CPM. After several late nights this is the result:

When you type |CPM much of the system is shut down: interrupts disabled, sound output stopped, external roms disabled and memory from &100 to the beginning of the Basic variable area filled with zero-bytes. The surprising thing is that most of Basic's variables and the firmware remain intact. Then the contents of track 0, sector &41, load in at location &100 - the boot sector. A jump to this address follows.

With this knowledge it should be a simple matter to write a routine that executes from &100 and resides on the boot sector. The tricky part is loading and running a Basic file from machine-code. This is the shortest and simplest method I could think of:

```
ORG &100

LD C,&FF
LD HL,start
CALL &BD16      ;run program

start
CALL &BCCB      ;init all roms

LD C,0          ;determine version
CALL &B915      ;of Basic
LD A,H

CP 0            ;if zero then 464
JR Z,is_464
```

```
PUSH AF          ;if not version 1.0
CALL lod_vars    ;then load in variables
POP AF
CP 1             ;check if 664 or 6128
JR Z,is_664
JR is_6128

lod_file

LD DE,&C000      ;load in Basic file
LD B,8           ;called MENU.BAS
LD HL,name
CALL &BC77
LD HL,&170
CALL &BC83
CALL &BC7A

CALL &B900       ;switch in Basic rom

LD HL,&8000      ;point HL to zero byte
DB &C3          ;auto-run Basic file
which
DW 0

name

TEXT "MENU.BAS"

is_464

LD HL,&E9BD      ;if 464 then place
LD (which),HL   ;address to auto-run
JR lod_file     ;Basic in which

is_664

LD HL,&EA80      ;if 664 then place
LD (which),HL   ;address to auto-run
JR lod_file     ;Basic in which

is_6128

LD HL,&EA78      ;if 6128 then place
LD (which),HL   ;address to auto-run
JR lod_file     ;Basic in which

lod_vars

LD DE,&C000      ;Load Basic variables
LD B,11         ;to location &AE00
LD HL,name1
CALL &BC77
LD HL,&AE00
CALL &BC83
CALL &BC74
```

RET

name 1

DB "BASVARS.BIN"

It's quite easy to place a machine-code program on the boot sector. You must remember that the program has to work from &100, though. As you can use the firmware you should have no trouble loading other machine-code files and generally causing havoc.

### Basic starts at &170

Problems arise when trying to load and run Basic files. As there are three versions of Basic the first thing to do is discern which version you're using. Simple. CALL &B915 will return the rom version in the H register.

I found it possible to load and run Basic programs on the 464 with no strings attached using the |CPM command. The 664 and 6128 are a different kettle of fish: locations &AE00 to &AE70 hold crucial data concerning the Basic file. These are reset when |CPM is entered. If you follow these steps then all will work correctly:

- load the Basic file you wish to run when you issue the |CPM command
  - save the file "BASVARS",B,&AE00,&70
  - enter the assembly listing
  - save the object code by using the Basic listing
  - make sure the Basic file you wish to run from |CPM is called "MENU.BAS"
- Below is the Basic program that will save the object code (as long as it's loaded at &6000) onto the boot sector:

```
10 DATA 21,19,40,CD,D4,BC,22,1A,40
20 DATA 79,32,1C,40,21,00,60,11,00
30 DATA 00,0E,41,DF,1A,40,C9,85,00
40 DATA 00,00,00
50 FOR t=&4000 TO &401D
60 READ a$: POKE t,VAL("&"+a$)
70 NEXT: CALL &4000
```

**We welcome any tips from advanced users, which should be sent to:**  
**The Editor,**  
**The Amstrad User,**  
**1/245 Springvale Road,**  
**Glen Waverley, Vic 3150**



*How can you  
at this time  
By snapping up the  
bargains\* and*

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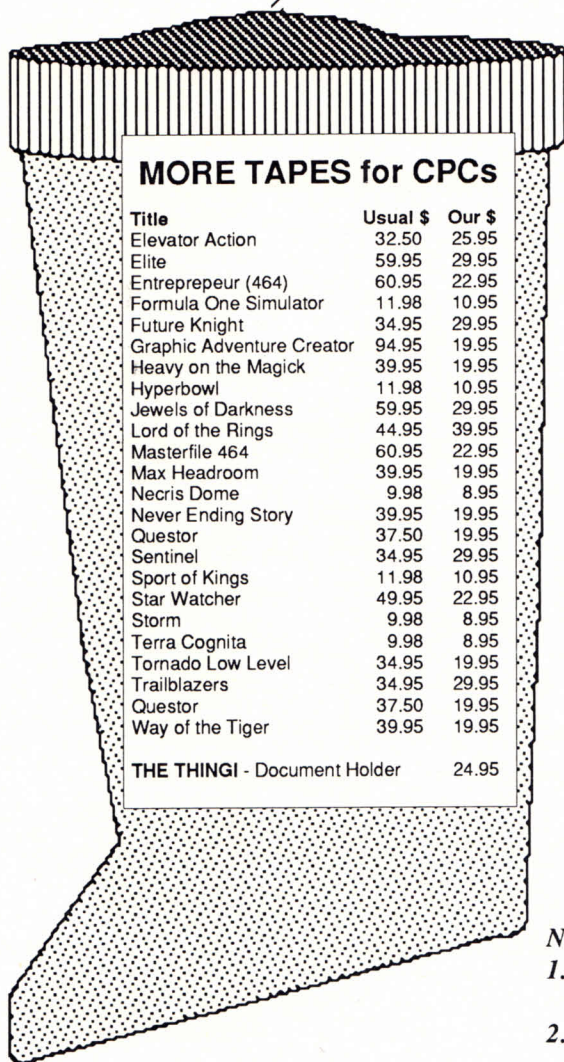
  

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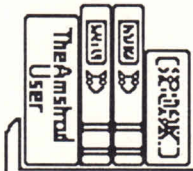
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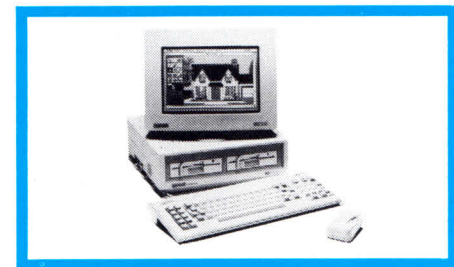
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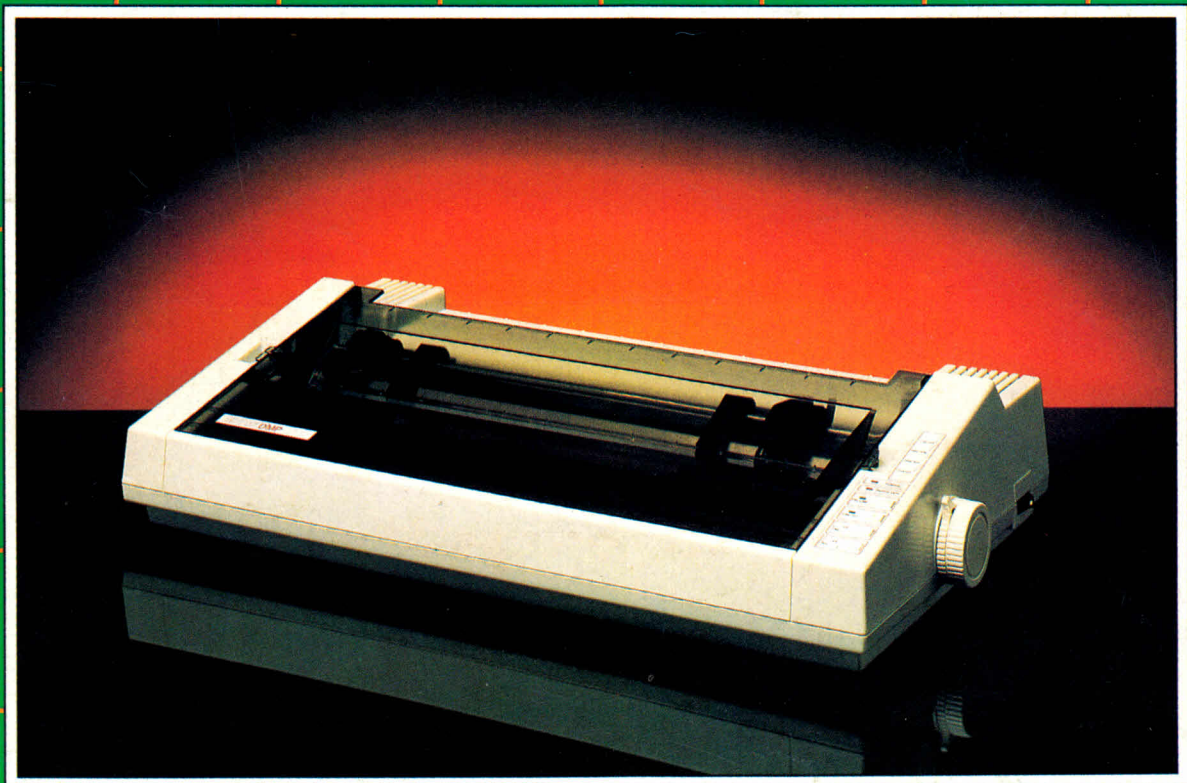
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## Introducing the Amstrad PC

Peter Rodwell

Designed for those who wish to get to know the Amstrad PC 1512, either before buying or having just purchased the machine, this book takes the reader step by step through its many features. The various elements of the hardware are described, with their functions and major features being fully illustrated. The extensive collection of GEM software provided with the machine is described along with the other GEM programs that are currently available.

Both DOS Plus and MS-DOS, the two operating systems supplied with the computer are covered and an extensive chapter outlining all the major commands is included.

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## Program Your Amstrad PC!

Ian Sinclair

This book is designed both for the complete beginner to BASIC programming on the Amstrad PC's, as well as the more experienced computer user. It starts from the very beginning, assuming the reader knows nothing about programming or BASIC 2, the new form of BASIC provided with the Amstrad PC's. In easy stages, it takes the reader through displaying messages on the screen, data statements, formulae and functions, loops and string handling. Later chapters deal with sub-routines, data files, screen and printer output, program editing and debugging. The whole book is written in an easy to understand style. With explanations of the use of numerous features of this powerful machine and its programming language BASIC 2.

The book will provide the reader with the ability to design and write their own programs, to meet their particular needs, either in business or for the home.

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## The Quill User's Reference Manual

Stephen Morris

So you have bought, or are thinking of using, Quill, the word processing package from Pson Software's versatile integrated system of business software, Xchange. Now what is needed will be the right kind of advice, information and support, to enable you to obtain maximum benefit from this exciting and useful program.

In this book, Stephen Morris provides such a guide. Presented in four main parts, the book begins with a general introduction to microcomputers, word processing, and to Quill, then gets down to clear explicit guidance on how to start to use Quill - the Install commands, Utilities programs, Quill's display and Help facility. The principal word processing functions are examined in detail - entering, deleting, inserting and changing text, search and replace, adjusting layout etc - in the next section, while the third part deals with printing with Quill, the final chapters introducing the user to Advanced operations, such as merging files, standard letters, and using Xchange.

Designed to be an essentially practical guide to be used when actually running the program, the information in this book covers all the desktop computers on which Quill and Xchange currently run.

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## The DOS Plus Reference Guide for PC-DOS, MS-DOS and CP/M Programmers

Digital Research

This guide describes the programming environment of DOS Plus and is written for assembly language programmers writing applications software to run under PC-DOS, MS-DOS and CP/M. It is designed for the reader who is familiar with the 8086 architecture and its instruction set.

The guide is divided into two parts: Part 1 gives a detailed description of the DOS Plus system, including the information necessary for those writing CP/M 86 compatible software, whilst Part 2 describes the interface to DOS Plus for programmers who are writing software which must also run under PC-DOS or MS-DOS.

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## Using Databases on the Amstrad PCW8256 & PCW8512

Stephen Morris

When the Amstrad PCW was first launched onto the market it was sold purely as a word processing machine. Since then the thousands of owners have realised its power and potential as a microcomputer. This book is designed to help the PCW owner utilise the capabilities of their investment to organise, store and retrieve information.

The book starts with a general introduction to information storage and contrasts manual and computerised systems. It then outlines the general principles behind computer databases, the Data Protection Act, data entry and file management. This is followed by a detailed discussion of six widely used database

programs - Matchbox, Card Box, At Last 1, Sagesoft Retrieve, Cambase and Condor 1. These programs are examined in turn, with descriptions on how to prepare and create a data file; searching, sorting and selecting information; producing reports and looking after files.

The book thus offers both a general introduction to using databases on the Amstrad PCW's and specific descriptions of how to use a number of popular packages.

**G 11214 \$35.95**

## Word Processing with the Amstrad PCW 8256 and PCW 8512

Stephen Morris

Aspects of word processing on the PCW machines are covered in this book, from the initial setting up of the machine to the creation of standard templates.

In the early stages, the setting up processes are covered in considerable detail and the pace of the book accelerates gently as the reader becomes ever more confident. Separate chapters cover the design, creation, editing and printing out of a document. These detail such features of LocoScript as the naming of documents, the moving of blocks of text and the attainment of the required style by means of tabs, justification and centring of the text.

Use of the printer is covered in detail and explanation provided of the emphasis menu, type-style changes and the use of special codes. Finally file housekeeping, disk management and the use of templates are explained along with a chapter on short cuts for the more experienced user.

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## Using DOS Plus on the Amstrad PC

Stephen Morris

In addition to MS-DOS, the Amstrad PC is supplied with Digital Research's DOS Plus operating system. The extra features offered by this operating system are described fully in this book, along with clear instructions on their use.

File manipulation, the creation of batch files and the storage of data are covered, along with directory structures. Other uses of DOS Plus are covered such as system installation, printer control and the setting of the non-volatile RAM.

More exotic features, such as the use of passwords, are also covered along with the allocation of memory, the use of background programs and the ALARM facility.

**G 10633 224 pages illustrated**

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## Business Presentation Graphics on the Amstrad PC

Kathy Lang

Business Presentation Graphics may be produced on screen, hard copy, or slide, by means of the range of Digital Research application programs, e.g. GEM Graph, GEM



Draw, GEM Paint, GEM Write and GEM Wordchart. These visual business presentations enhance reports of all types and can be produced effectively and quickly by means of these GEM-based programs. This book expresses things very much in terms of users and their objectives, taking a practical approach to the production of illustrations using GEM graphics. The text includes many informative diagrams, photographs and illustrations, plus helpful summaries and checklists throughout.

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### An Introduction to CP/M Plus on Amstrad Computers

**P K McBride**

CP/M Plus is the major operating system for small computers and its origin, development and use are covered in this book. This operating system is supplied on disk and loaded by the user into the computer, this start-up process is described along with details of memory organisation and the storage of programs on disk. The use of text editors and program editors such as ED 80 are explained and an ED ready-reference table provided. CP/M Calls are then explained including DDT and SID and examples of their use given. High-level language programming with CP/M Plus is discussed and a program developed to illustrate its use in the creation, storage, editing and searching of a data file. The use of graphics to enhance displays is covered and GSX discussed, along with DR Draw and DR Graph. The range of CP/M software available is covered in final chapter. The six appendices cover assembler mnemonics, ASCII number effects and Hex conversions, the BDOS functions and the System control block.

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### The Abacus User's Reference Manual

**Stephen Morris**

The book begins with a general introduction to microcomputers, electronic spreadsheet usage and to Abacus itself, with clear and explicit guidance on how to start to use the package - the Install commands, Utilities programs, Archive's display and Help facility. The way to start a spreadsheet, entering labels and values, using the columns and rows etc, performing calculations and adjusting the layout, are all examined in detail in the next section, while the third part looks at printing with Abacus, the final chapters introducing the user to Advanced Operations, such as multiple tasks, Importing and Exporting with the business graphics package of Xchange, Easel, and other interactions between Abacus and the total Xchange system. Designed to be an essentially practical guide to be used when actually running the program, the information in this book covers all the desktop computers on which Abacus and Xchange currently run.

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### Program Your PCW!

**Ian Sinclair**

As an indispensable guide to Mallard BASIC, this remains one of the best selling titles for the Amstrad PCW Computers. The fundamental principles of programming are introduced at the beginning of the book, along with simple screen formatting. Character strings and numeric variables are then considered and their manipulation explained. More complex structures using loops are then explained and are applied in the manipulation of data and its presentation on the screen. The use of Mallard BASIC to create more complex programs is then considered starting with the creation of MENUS to guide the user along. Complexity demands more order and subroutines are introduced enabling this complexity to be controlled. Filing is then introduced and used to create a random-access filing system, introducing among other things, the JETSAM file.

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### Word Processing Using GEM Write on the Amstrad PC

**Mike O'Reilly**

Word processing with the Digital Research package GEM Write is covered in all its stages by this book. For the beginner, full coverage is provided both of the fundamentals of word processing itself and of the first steps in using GEM Write. Once up and running, the book covers all the GEM Write functions such as finding/replacing and formatting of text on the screen. Methods of improving the appearance of the text by formatting and justifying are covered both on the screen and when printing out hard copy. The more advanced presentation and output functions are described and a handy concise appendix lists all commands along with their syntax. The book is fully illustrated with numerous sample texts, screen dumps and colour plates.

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### Using GEM on the Amstrad PC

**Kathy Lang**

The Amstrad PC is supplied with Digital Research's GEM (Graphics Environment Manager) software. This book describes GEM, its mode of operation and range of uses. Extensive coverage is provided of GEM Desktop and GEM Paint, the software bundled with the computer. These packages are explained and detailed descriptions of their use, along with many illustrations, lead the reader through disk-handling, file manipulation and control of the screen display. Various GEM applications are described to enable the reader to gauge the full potential of GEM software. The book is fully illustrated with many colour plates and is available in both paperback and hardback editions.

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### Programming in C on the Amstrad CPC and PCW Computers

**Ian Sinclair**

The programming Language 'C' offers the programmer many opportunities not available in the more 'traditional' microcomputer languages such as BASIC. Hisoft's implementation of 'C' is fully described in this book and its application compared to Locomotive's BASIC. Every opportunity is taken to show the reader the new ways of programming available and to emphasize the old BASIC habits that must be abandoned. Because of the close inter-relationship between the way programs are designed and the way they are written, the author links these topics together. The book has been written entirely around the conventional 'top-down' method of structured programming, a method designed to make complex programs relatively easy to write and understand.

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### The Archive User's Reference Manual

**Stephen Morris**

Presented in four main parts, the book begins with a general introduction to microcomputers, databases, and to Archive, with clear and explicit guidance on how to start to use the package - the Install commands, Utilities programs, Archive's display and Help facility. The principal uses of databases are examined in detail - creating a database file, record structure, screen presentation selecting and sorting etc - in the next section, while the third part deals with printing with Archive, the final chapters introducing the user to Advanced operations, such as creating a procedure, saving and loading programs, loops, and using Xchange. Designed to be an essentially practical guide to be used when actually running the program, the information in this book covers all the desktop computers on which Archive and Xchange currently run.

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### The DOS Plus Manual for the Amstrad PC

**Digital Research Inc**

This manual consists of the original Digital Research documentation which has been edited and enhanced to be specific to the Amstrad PC 1512. It introduces DOS Plus and provides an overview of the storage and protection of CP/M files. The DOS Plus command line is examined, along with password protection and the command search sequence. All DOS Plus commands are examined in detail, together with the procedures for running background programs. Numerous examples illustrate the use of both the built-in and DOS Plus commands and serve to clarify their detailed application. As a complete text on DOS Plus, this provides an invaluable source of data for both novice and experienced programmer alike.

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