

The Aussie Mag
for Amstrad owners

THE AMSTRAD USER

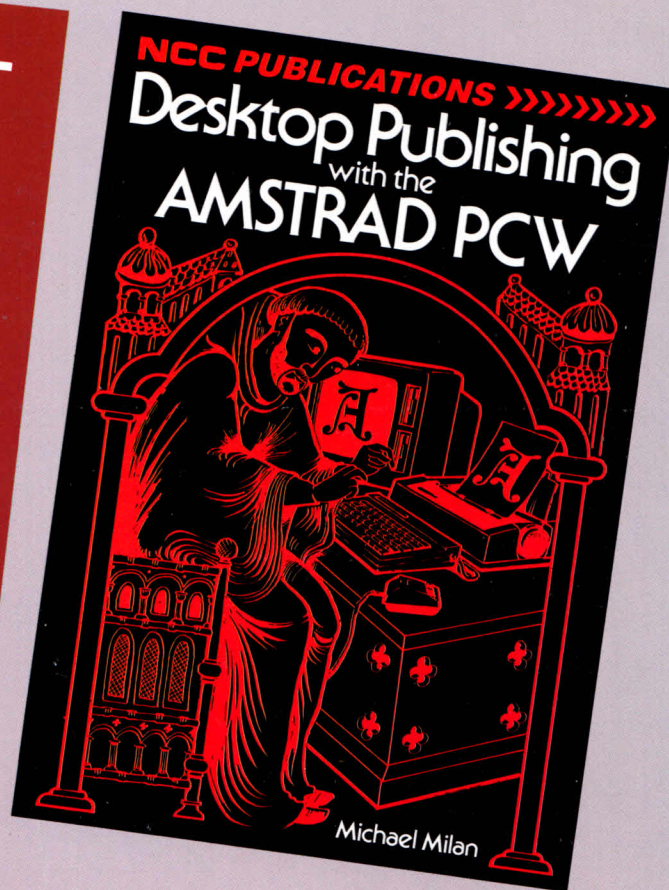
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Issue No. 40 \$4.25

May 1988

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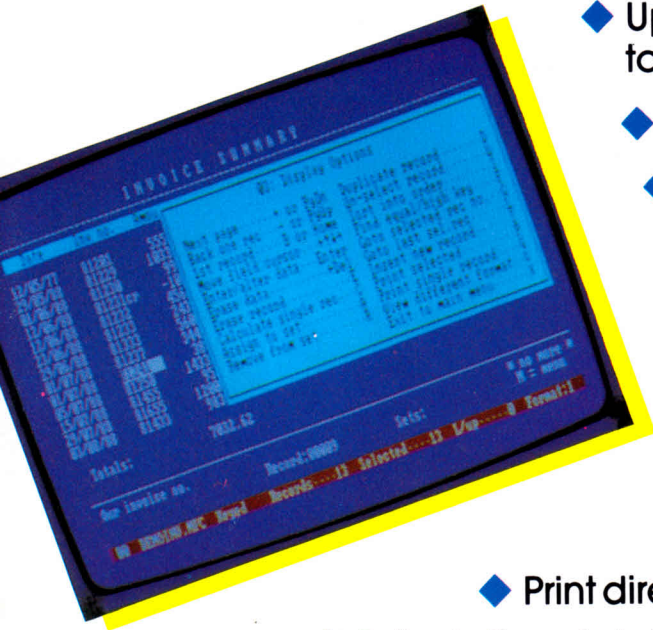
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THE AMSTRAD USER

Issue No. 40
May 1988

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

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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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From time to time, some articles appearing in The Amstrad User

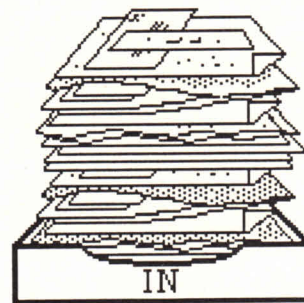
will be reproductions from UK publications Amstrad Action and 8000 Plus. These are printed under an agreement between Strategy Publications and Future Publishing Ltd, Bath.

The subscription rate (for Australia) is \$42.50 for 12 issues of the magazine only, or \$80.00 for 12 issues of the magazine plus tape (for CPC range only) containing programs appearing in that issue. Postage is included in the above prices. For subscriptions to New Zealand, PNG, Solomon Islands or Vanuatu please add \$21 airmail. Other overseas prices available upon application. 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: Cartoons \$10.00 and a rate of \$15.00 per page for programs, articles etc. unless otherwise previously agreed. Contributions will not be returned unless specifically requested coupled with a suitable stamped and return addressed padded bag (for tapes or discs).

The Amstrad User is an independent Australian magazine and is not affiliated in any way with Amstrad or their Australian distributors or any other dealer in either software or hardware.

Letters



Simple robots (Mailbag April '88) can be controlled easily through the CPC printer port by the command `OUT &EF00,x`. It acts in a similar way to `PRINT #8,CHR(x)`, but does not check the 'printer busy' line. Eight signals are available, and are determined by the setting of the bits in 'x'. Pins 2 to 8 (see User Instructions provided with the computer) are controlled by bits 0 to 6; pin 1 is set by bit 7 of 'x', but is inverted by hardware (it serves as the STROBE signal).

Suppose you want to stop everything by sending a zero to the robot: `OUT &EF00,&X10000000` will accomplish it. To control the signal on pin 2, send `OUT &EF),&X10000001` to turn it on and everything else off. The port is latched, so the pin will stay on until it is turned off. There is only one pin available for feedback: pin 11, which normally receives the BUSY signal from the printer. It can be accessed by

```
x=INP(&f500) AND 64:IF x=64
  THEN [off] ELSE [on]
```

The BUSY signal sets/resets bit 6 of the port, and ANDing the value with 64 (`&X01000000`) isolates the relevant bit.

Depending on the circuitry in the robot, the required ON and OFF signals may be inverted. Some experimentation should clarify the matter. Make sure that any voltage applied to the port does not exceed the range 0 to +5v, otherwise chips could be damaged. And the port

cannot supply any appreciable amount of current, but I think it is safer and easier to use than the expansion port.

Petr Lukes, Toowoomba, Qld

Since writing my letter that appeared in the Mailbag section (April '88), I have found the answer to some of my problems.

Thanks to the huge amount of help of a local dealer, I finally found my communications problems to be the fault of the Amstrad CPS8256 interface. When my modem 'blew' it took the interface with it. Praying that the computer was not damaged I tried a new CPS8256 borrowed from my dealer. All was well and peace came over my household. I sent my CPS8256 back to AWA, had it repaired and returned in one week. (It was just out of warranty and I explained the problems with the modem and AWA saw fit not to charge me for the repair).

A warning to other inexperienced communicators. The CPS8256 interface is just susceptible to phone line surges as your modem. If you have had trouble with your modem than check the interface as well.

Since then I have obtained Public Domain copies of UKM7-PCW, KERMIT and MEX-PCW communications software. I have no problems using these in terminal mode but when it comes to up- or down-loading files and software from Bulletin Boards, no mention is made in the 'manuals' as to how this is achieved. Can anyone help?

David Higgins, Cooma, NSW

We always like to give a pat on the back to helpful dealers, and in this case credit is due to Cooma Computers in Vale Street, Cooma. Using Bulletin Boards is an area we have not fully covered to date and an invitation is made to experienced communicators (CPC,

PCW or PC) for tutorial articles.

Being a CPC user, I give my main attention to that part of TAU, but I always browse through the other sections - you never know what may catch one's eye and prove interesting and useful. While doing this, I noticed a reference in the current issue to "booting the computer" and it was clear that the writer did not know the origin of this term.

"To boot" (the earlier form) is short for "to bootstrap" and this in turn is a shortened reference to the old cynical saying "to lift oneself up by one's own bootstraps".

The earliest functional computers had to be started-up by entering a loader program, bit by bit and in machine code, though a set of switches on the front panel. Only after this had been done could any "real" program be entered and run. Even the second generation machines only had the very simplest of hard-wired instructions built-in. The first computer I worked on (mid-60s) was a small IBM mainframe. This had no operating system at all! On the front panel was a switch marked LOAD, and pressing this started a tiny hard-wired program which read one card from the card reader and gave control to the first item from the card. The card had to be punched (in machine code) with instructions to clear the storage, read another card and branch to it. The next two or three cards contained a tiny loader program which resided in low core and read in the "real" program to run. This initial set of cards was called "the bootstrap" because of the way it loaded itself.

Compared to my CPC464 (now regarded as "old hat" and nearly obsolete!) it is interesting to recall that 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.

first mainframe (an IBM 1440) had a memory of 12,000 6-bit characters, a cycle speed of 0.1Mhz and two disk drives which held 2m characters each. COBOL and FORTRAN were available, but were inadequate for our needs and we wrote a full-size commercial system in Autocoder (an Assembly language) which ran very successfully for about three years until the system was replaced by a later one on a larger machine.

One advantage of the old non-volatile "core" memory - I can remember that, after a long power-failure during the running of a major program, we were able, after a bit of detective work at the console, to restart the program from the point at which it had stopped, without having to reload and start again.

A.F. Ryan, Wainuimata, NZ

While we reminisce, we mention that one member of our staff worked on a Ferranti Mercury in the early 60s which had no transistors, just valves and all input was though a large console and paper tape. The next machine he worked on was De La Rue-

Gamma 10, with punched card input, and the program was contained in a large 2' x 18" x 9" plugboard which was hooked on to the side of the computer - perhaps the forerunner of today's cartridges.

I am a new Amstrad user, and the main reason for the purchase of my Amstrad was for keeping training, form and breeding records on my Greyhounds.

Needless to say I was delighted to find Lloyd Cherry's type-in in the February issue of The Amstrad User. Naturally, being new to typing in programs I had a few bugs. I rang Lloyd and he offered to have a look at the disk for me. Silly errors were soon corrected and I'm now up and running.

Many thanks to Lloyd Cherry and The Amstrad User.

Kay Radford, Londonderry, NSW

Lloyd may have got a few more queries if we had printed his address correctly which should have read McKenzies Road. Please, for Lloyd's sake, keep your queries, if any, confined to the pedigree program. Some

readers may have noticed and corrected a couple of printing problems where the 'tails' of commas were chopped off. The relevant lines are 1140 PRINT #Z, TAB etc and 1770 PRINT #8, CHR\$(27) etc.

I wish to take it upon myself, on behalf of the many PCW users like myself, to question some of your statements in recent issues that have led me to believe that your magazine is starting to lose sight of it's purpose. i.e.

1. To provide information on software and honest evaluation of same.

2. To provide a forum for the exchange of ideas and information by and for your subscribers. (subscribers; They are the Jokers who spend readies buying your mag. and the goods and services advertised within.)

3. to quote your Front page:

To be "The Aussie Mag for Amstrad owners.....For the novice & experienced user".

With those points in mind I find:

1. It very difficult to accept the warning published on page 46 TAU Dec

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MAILBAG

87 to PCW owners palatable. In the light of the fact that one of the main reasons for PCW owners of my acquaintance subscribe to this journal is that very column.

2. It is even harder to comprehend why, after 3 years of publication, there is still no disc version subscription available for PCW owners. Running a small business does not leave much time to key in (and the inevitable debugging of) program printed, let alone find time to send in "accidental" discovery tips.

3. I also object to the arithmetic applied to those who, having made the effort to write or adapt programs to run on PCW's and submit them, lose out on the deal. e.g. Professionals charge up to

\$40 PER PROGRAM LINE. Your publication offers an insulting \$15 per page or program. To add further insult it is asked of the contributor to pay the return postage plus padded bag if he expects his \$9 odd disc back! While it is granted that most CPC owners would be probably quite happy with these arrangements, PCW owners/users are, in the main, business-minded people and can be rather difficult when it comes to parting with readies for services that do not deliver what is promised or sharing knowledge that is not amply rewarded. You have been warned.

Your evaluations of software for PCW's is generally very good, but some effort should be made to find and report on real life user's rather than some imaginary Widge Manufacturer/Wholesaler/Reseller supposed problems solved by this All Singing And Dancing with optional Mud Flaps and GoGo Pinstriping Model Software. I find these imaginary reports never seem to quite come to grips with real problems and only hint at its capabilities. A classic example is Super Calc2. Having been sold this program (by someone who had no idea of its real capabilities) I proceeded to stumble around in the dark trying to put it to use in my business using some of those, folksy, much beloved by software reviewers reports as a guide. After much time wasting and abuse hurling at all and sundry computer journalists and salesman, I almost

sold my PCW to the first mug that came through the door so that I could buy a "real computer" that had programs "to go".

Luckily, it was my old Maths Teacher from school who came through the door. (See, I told you a mug would come through the door) He smugly suggested that, among other smart remarks, I go to "decent" (?) book shop and look for a spreadsheet "PRIMER". Angus and Robertsons's happily obliged with the right goods (Super Calc2 Primer \$20) and within 20 minutes I had grasped the gist and now run Ledgers-Accounts-Credit and Debit-Banking-Stock control etc. In fact I find SC2's applications is only limited by my own imagination.

I now consider it the best \$20 buck's worth I ever invested. Next to my PCW of course, which nearly went out the door because of my stupidity following a reviewers idea of how the real business world works. Nowhere in any of the many many articles published on Super Calc2 by both local and overseas Amstrad magazines has this simple piece of advice been offered to my knowledge. So much for reviewers research and experience.

The improvement in software quantity offered by TAU for PCW's is to be commended, even if the choice is still some what limited.

In spite of the above disappointments I will be renewing my subscription when due if only because of managements

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One thing you can't advertise is the sale or swap of software you've purchased. Such ads can be misused by software pirates. Just fill in the application form and send it to us together with payment. We'll then place the ad in the next available issue (published 3 to 7 weeks after we receive your order.)

Classification: For Sale Wanted Services User Groups Other

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attempts to try and be all things to all Amstrad users, e.g....Classics (Should be given 12 months trial), your promised index of the first 3 years due in April (make it an annual event) Feature articles, etc.

M.J. Harvey, New Lambton, NSW

We are sure you would find the absence of Tip-Offs even more unpalatable than the small note requesting more from readers.

We have stated before that The Amstrad User being a specialised magazine with a healthy circulation of 8000 copies each month is not meant to compete against larger, more general magazines. But where you got \$40 per program line from defeats us. At that rate we would have to pay over \$57,000 to contributors this month alone! Would you be happy to pay over \$11 each month for your magazine to cover it?

Only a small percentage of programs we receive get published. If you saw our postage bill, you'd know why we ask for pre-paid padded bags for returns.

CONTRIBUTIONS

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USER GROUP INFORMATION

Nationwide User Groups

There are a lot of birthdays in 1988. The big one is Australia's own '200 years old' celebrations. Not quite as old but causing a major impact in the computer world is Amstrad who are twenty years old this year. And as The Amstrad User is three years old, this must mean that a number of user groups are also celebrating - Happy Birthday to all!

WESTERN AUSTRALIA

ALBANY AMSTRAD USER GROUP

President: Gerry Barr (098 41 6884)
Secretary: Steven Hands (098 44 7807)
Treasurer: Gavin Grose
Venue: Priess Street Centre, 14 Priess Street, Albany on the first and third Mondays of each month at 7.00 pm.
Mail: 20 Anuaka Road, Albany, WA 6330

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 7.30.

AMSWEST (Blackwood) USERS GROUP

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

ROCKINGHAM-KWINANA AMSTRAD USER GROUP

President: Ray Forsyth
Vice-Pres: Larry Spozetta
Treasurer: John Hille
Secretary: Ben Hille (095 27 5246)
Venue: Cooloongup Primary School, Westerly Way, Cooloongup (Rockingham), every second Wednesday at 7.30 pm. and every other second Tuesday at Medina Primary School, Medina Ave, Medina at 7.30pm.
Mail: The Secretary, R-KAUG, 104 Milina St, Hillman, 6168

SOUTHSIDE AMSTRAD USER CLUB

President: W. Van Der Kooi (09 271 1085)
Secretary: Steve King (09 354 2068)
Treasurer: Eric Tytherleigh (09 390 8865)
Venue: Huntingdale Primary Sch., Matilda Rd. Huntingdale every 2nd and 4th Wednesday of each month from 7.00 pm.
Mail: The Sec., Southside Amstrad Users Club, 61 Keslake Way, Parkwood, WA 6110.

AMSTRAD COMPUTER CLUB TOM PRICE

President: Colin Smith (091 89 2074)
Secretary: John Eliot (091 98 1735)
Treasurers: P. & C. Montgomery (091 89 2398)
Venue: Primary School every 2nd Wednesday night. Contact the above for more details.

SOUTH AUSTRALIA

AMSOUTH AMSTRAD USER'S GROUP

President: Drew Ames (085 371 0151)
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: Frank Matzka (08 382 2101)
Vice Pres: Andrew McDade (08 79 5414)
Treasurer: Les Jamieson (08 356 9612)
Secretary: Ross Barker
Venue: Church Hall, 15 Clayton Ave, Plympton between 6.30 and 9.00 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)
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Venue: Salisbury North Primary School, cnr. Bagster & Woodyates Rds every Wednesday from 7.00.
Mail: PO Box 269, Two Wells, SA 5501

PORT LINCOLN AMSTRAD USERS GROUP

Contact: Rita Bascombe (086 62 1633)
Venue: Third Tuesday of each month from 8.00pm. Ring above number for address.

PORT PIRIE AMSTRAD USER GROUP

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

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

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Treasurer: Jeff Powis (089 27 5557)
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Venue: Meetings are held twice monthly. Contact any of the above for more details.
Mail: 45 Priest Circuit, Gray, Palmerston, NT 5787

VICTORIA

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President: Fred Gillen (03 580 9839)
Vice-Pres: Dennis Whelan (03 367 6614)
Treasurer: Doug Jones (03 560 8663)
Secretary: Craig Tooke (03 359 3736)
Venue: Bogart's Restaurant on the corner of Victoria and Errol Streets, North Melbourne on the first Sunday of each month starting at 1.00 pm.

EASTERN AMSTRAD USER GROUP Inc.

President: J.L. Elkhorne
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

GEE LONG AMSTRAD USER CLUB

President: Arthur Pounsett (052 78 2160)
Vice-Pres: Diethard Kuhlmann (052 81 9200)
Secretary: Mick Stone (052 91 505)
Venue: South Barwon Community Services Ctr, 33 Mount Pleasant Rd, Belmont on the first Wed. of each month, from 7.30p.m.
Mail: 346 Autumn St., West Geelong, 3218.

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 Cres., Morwell on the first Thursday of each month at 7.30pm.
Mail: PO Box 947, Morwell, Vic 3840

MARYBOROUGH AMSTRAD USER CLUB

President: Chad Banfield (054 68 1351)
Treasurer: Brendan Severino (054 61 3191)
Secretary: J. Fothergill (054 75 2667)
Venue: Maryborough CCC each week on Tuesday from 12.10 p.m. to 12.45 p.m.

MOUNTAIN DISTRICT AMSTRAD USER GROUP

President: David Jamieson (03 870 1016)
Treasurer: Ian Pearson (059 965 019)
Secretary: Craig Bell (03 758 9921)
Venue: Country Womens Association Hall, 4 Sundaw 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 A/H)
Venue: Every three weeks in Brunswick West for CPC owners with a sincere interest beyond games.

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 7.30p.m.
Mail: The Sec., PO Box 100, Seaford, Vic 3198.

SUNBURY MELTON AMSTRAD USER GROUP

Contacts: Wayne Urnston (03 744 2719)
Norma McEntee (03 743 7104)
Venue: Contact above for more details.

WENDOUREE AMSTRAD USER GROUP

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

Convener: Paul Kirby (062 86 5460)
Secretary: Michael Hickey (062 58 5719)
Treasurer: Rod MacKenzie (062 54 7551)

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 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 4th Wednesday of each month at 8.00pm.

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 on the first Friday of each month.

FAIRFIELD MICRO USER GROUP

Contact: Ekrem [after 6.30 pm] (02 609 6581)
Venue: Room 65, Canley Vale High School, Prospect Road, Canley Vale every third Wednesday from 7.00.

HAWKESBURY AMSTRAD USER GROUP

President: Terry Webb (045 76 5291)
Secretary: Dave Keen (045 77 5536)
Venue: Richmond Swimming Club Rooms every third Tuesday of the month at 7.30 pm.

ILLAWARRA AMSTRAD USERS CLUB

President: Paul Simpson (042 27 1574)
Secretary: Ken Waegle (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: Laurie Lewis (066 62 4542)
Venue: Goonellabah Public School, Ballina St. on the last Tuesday of each month from 6.30.
Mail: 20 Johnston Street, Casino, NSW 2470

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 7.30pm

MURWILLUMBAH AMSTRAD USERS GROUP

President: Nick Bruin (066 79 3280)
Vice Pres: Kel Philip (066 77 1440)
Secretary: Laura Goode (066 72 2499)
Treasurer: Lorraine Montgomery (066 72 1823)
Venue: Murwillumbah High Sch. on the 2nd Wednesday of each month at 7.00p.m.
Mail: c/o Post Office, Burringbar, 2483

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: David Springett (02 660 4515)

USER GROUP INFORMATION

NEW ZEALAND

Secretary: David Chamberlain (047 77 4396)
 Venue: Burwood RSL Club, 96 Shaftsbury Road,
 Burwood every second Tuesday of the
 month at 7.30 pm.
 Mail: PO Box 97, Annandale, NSW 2038.

PORT MACQUARIE AMSTRAD USERS GROUP
 Mail: Craig Tollis, Box 584, Pt. Macquarie, 2444.

SYDNEY AMSTRAD COMPUTER CLUB
 President: Bob Knowles (02 810 7373)
 Secretary: Reed Walters (02 560 9487)
 Treasurer: Jim Chriss (02 327 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 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: John O'Connor (07 271 3350)
 Vice Pres: John Digby (07 351 2553)
 Secretary: Bob Ashe (07 355 5699)
 Treasurer: Ivan Dowling (07 269 8795)
 Tech. Editor: Franz Hendrickx (07 356 0633)
 Venue: Main meetings in Room 15a of Junction
 Park State School, Waldheim St., Annerley
 starting at 7.30 p.m. on the 1st Tues. of the
 month. Another is held at Wynnum
 Central State H.Sch, Florence St., Wynnum
 Central on the 3rd Saturday of each month
 at 1.00 p.m. The coordinator is Warren
 Kennedy (07 351 4232). A third is held
 at Newmarket State Sch., Banks St.,
 Newmarket on the second Saturday of
 each month at 1.30 p.m. The co-ordinator
 is Cherry Shrier (07 351 6179).
 Mail: PO Box 167, Alderley, Qld. 4051

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

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

CAPRICORN AMSTRAD USERS GROUP
 President: Graeme Annabel (079 27 4915)
 Sec/Treas: Anthony Trost (079 33 1951)
 Venue: Waraburra State School, Johnson Road,
 Gracemere on the first Friday of each
 month at 7.00 pm.
 Mail: 4 Sunrise Crescent, Gracemere, 4702

**COMPUTER USER GROUPS OF AUSTRALIA
 Pittsworth Branch**
 President: David Siebuhr
 Contact: Ron Langton (076 931 690)
 Venue: Every first Tuesday of every month from
 5 pm. at the St. Peter Lutheran Church
 Hall, Grand Street, Pittsworth.
 Mail: CUGA, PO Box 166, Pittsworth, 4356

GOLD COAST AMSTRAD USER GROUP
 President: Mark Abbott (075 31 2114)
 Treasurer: Pam Scott
 Secretary: Mary MacLaren
 Venue: Benowa State High School, Mediteranean
 Drive, Benowa on the first Saturday of
 each month at 2.00 pm.
 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
 alternating between the Hervey Bay Senior
 College and Maryborough TAFE College.
 Contact the above for more details.
 Mail: Les Patford, PO Box 24, Torquay, Q 4657

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

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

**PENINSULA AMSTRAD CLUB
 (amalgamated with BACC)**
 President: Ivan Dowling (07 269 8795)
 Treasurer: Keith Johnston (07 203 2339)
 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: Mick Howe (07 209 1839)
 Treasurer: Wayne Stephens (07 287 2459)
 Librarian: Carol Watts (07 287 2882)
 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.
 Mail: 10 Carramar St, Loganlea, 4204

TOOWOOMBA AMSTRAD USERS GROUP
 President: Stephen Gale (076 35 5001)
 Vice-Pres: Priscilla Thompson (076 35 5092)
 Secretary: Adrian Dunsmore (076 91 1561)
 Treasurer: Edwin Gerlach (076 33 1054)
 Venue: Toowoomba Education Centre, Baker
 Street, Toowoomba on the 4th Monday of
 each month starting at 7.30 pm.

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

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

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

WESTERN SUBURBS AMSTRAD USERS GROUP
 President: Peter Wighton (07 288 4571)
 Secretary: Jimmy James (07 376 1137)
 Contact: Keith Jarrot (07 376 3385)
 Venue: The Jamboree Heights State Primary
 School, 35 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
 Publ. 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: Russell Lockett (003 44 8972)
 Treasurer: Keith Chapple (003 26 4338)
 Secretary: Shane Crack (003 97 3298)
 Publicity: Michael Watts (003 31 1944)
 Librarian: Patrick Salter (003 97 3379)
 Junior Del: Bobby Lockett (003 44 8972)
 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: Peter Gibson (004 24 7586)
 Treasurer: Robert Simpson
 Secretary: Karen Stevenson
 Venue: Hellyer College, Mooreville Rd, Burnie on
 the third Friday of each month at 6.30.
 Mail: Secretary, 112 Payne St., Burnie 7320

**THE AMSTRAD COMPUTER CLUB OF
 CANTERBURY**
 Contact: Christine Linfoot 897 413
 Ian Orchard 524 064
 Venue: Four Avenues School, cnr. Madras Street
 and Edgeware Road, Christchurch 1 on
 the fourth Wednesday of each month.
 Mail: Box 23.082 Bishopdale, Christchurch, NZ.

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

User Group Contact List

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

NSW			
Nick Rogers	Bogan Gate	(068) 64 1170	
Chris Craven	Canowindra	(063) 44 1150	
Trevor Farrell	Coolah/Mudgee area	(063) 77 1374	
David Higgins	Cooma/Monaro	(064) 52 1531	
Paul Wilson	Moruya	(044) 74 3160	
Frank Humphreys	Mummulgun	(066) 64 7290	
Reuben Carlsen	North Sydney	(02) 957 2505	
Stephen Gribben	Singleton	(065) 72 2732	
Ken Needs	St. Ives	(02) 449 5416	
Chas Fletcher	Toongabbie	(02) 631 5037	
Nick Bruin Snr.	Tweed Valley	(066) 79 3280	
VIC			
Brian Russell	Ballarat	(053) 31 2058	
C. van de Winckel	Ballarat	(053) 313 983	
Rod Anderson	Camperdown	(055) 93 2262	
Paul Walker	Heathmont	(03) 729 8657	
Terry Dovey	Horsham	(053) 82 3353	
Andrew Portbury	Leongatha	(056) 62 3694	
R. Kernebone	Mildura	(050) 23 3708	
Angela Evans	Mt. Evelyn	(03) 736 1852	
Keith McFadden	Numurkah	(058) 62 2069	
Maureen Morgan	Warnambool	(055) 67 1140	
QLD			
Beryl Schramm	Boyne Island	(079) 73 8035	
Steven Doyle	Caloundra	(071) 91 3147	
Ric Allberry	The Gap	(07) 300 1675	
Neville Eriksen	Gladstone	(079) 78 2418	
Kylie Telford	Goondiwindi	(076) 76 1746	
D.F. Read	Ingham	(077) 77 8576	
SA			
Lindsay Allen	Murray Bridge	(085) 32 2340	
Michael Spurrier	Murray Bridge	(085) 32 6984	
Mrs. S. Engler	Penola	(087) 36 6029	
WA			
Graeme Worth	Scarborough	(09) 341 5211	
P.M. Nuyens	Waroona	(095) 33 1179	
TAS			
Conal McClure	Scottsdale	(003) 52 2514	
NT			
G.P. Heron	Tiwi	(089) 27 8814	

This revised list is based on information collected over the last four months. If your name appears and it shouldn't, please let us know. For new readers: if you want to start a group in your area just drop us a line with the relevant details and we will add you to the list.

Gossip from the UK

New WordStar

In the old days, WordStar was the king of word processors, calling itself the 'industry standard' with some justification. On the PCW, LocoScript, NewWord and the Protext seemed to overtake it, but now MicroPro international - WordStar's makers - are hitting back.

With 3 million sales of previous versions on all computers, Micropro have announced WordStar Professional Release 4 for the PCW, aimed principally at office 9512 users. It claims 120 improvements - but price isn't one of them. Wordstar 4 costs £194.35, and existing owners of WordStar can upgrade to the new version for a mere £102.35.

How this pricing policy dents sales of Locoscript 2 (\$75) and Protext (\$199) remains to be seen.

The new model boasts among other things a word counter, a built-in four function calculator, and an 'undo' command (which LocoScript users will envy). There's also two-printer access, hanging tabs and proportional spacing (LocoScript users can feel smug as they already have these), though MicroPro note enigmatically that this last feature may require a 'British Dictionary'. (*All I need is a PCW 9512 to try it out!* - Ed).

Public Domain split

There's a reorganization going on in the world of Public Domain software suppliers. 'Public Domain' is a scheme whereby authors declare their software may be given free to anybody who asks for it. Several clubs exist to distribute this PD software for all computer types, although the clubs usually charge a fee to cover their costs.

PD SIG, the Public Domain Special Interest Group in the UK, is in the process of building its own library of

software from scratch after breaking links with the Public Domain Software. The PD SIG say that the split has come about because the PDSL was becoming cluttered with old software for defunct machines, although the PDSL have a different version of events. The PD SIG are working on their own catalogue which they claim will be better organised and more relevant to PCW owners.

At present they have been concentrating on IBM PC-related products (they already have 300 such discs) but they expect that by the time this magazine reaches the shop they will have got things organised on their list of PCW programs.

There's a new cataloguing system which categorizes PD discs. This follows disputes between the UK public domain suppliers and the American PD outfit 'PC SIG' who claimed that the British libraries were using their copyright cataloguing scheme.

In response, the Public Domain Software Library point out that they are still operating their list of PCW software normally. As an incentive, they are offering free membership until October 1988 to PD SIG members who wish to

carry on taking advantage of the existing public domain library.

16-bit Amstrad?

Rumours are rife that Amstrad are set to launch a new 16-bit computer. However, true to form, Amstrad are keeping tight-lipped about the subject. The rumour was originally sparked by a story in Computer Trade Weekly, a UK trade paper which suggested that a Commodore Amiga compatible machine was under development. A later article in Popular Computing Weekly added fuel to the gossip.

There is definitely room in the market for another computer, especially one using 16-bit technology. There are a large number of people planning to upgrade from ZX Spectrums, Commodore 64s and Amstrad CPCs to something a little more exciting and powerful.

Amstrad are in a good position to bring out a computer with a specification close to the current 16-bit machines. Will they do it?

Well, they haven't denied the rumour, but then they haven't admitted to it either.

Royal Approval

The extraordinary meeting of minds pictured here took place when the Prince of Wales toured the Midlands and was presented with an Amstrad portable for the charity Business in the

Community, to which they have also donated several PC 1640's. So what did the two great men say to each other? Alas we shall never know. Next to the photo is what one prospective reporter took a wild guess at.

Charles:
Hello your Highness.

Alan:
What, no bow?

Charles:
What's that thing on the table?

Alan:
Haven't a clue, but it sure gets the money piling in.

Charles:
Have you got any free software for my 664?

Alan rips clothes off, attacks Prince and exits stage right.



Mini Office PC

The ever popular software package Mini Office Professional from Database Software is now available in PC form. The package is contained on five discs; word processor, spell checker, database, spreadsheet and communications all priced at \$189.00

Features include true proportional spacing and lines/boxes in the word processor; a 27 000 word spellchecker; spreadsheet with a maximum of 255 rows and 255 columns; the database includes scientific and alphanumeric notations and the comms. package. It is imported to Australia by Pactronics.

Cross Talk

Ray Cross has returned to the fold. Seasoned readers of The Amstrad User will remember that he established a retail outlet in Boronia a couple of years ago, specialising in Amstrad equipment and software. He then sold the business to concentrate on other areas of electronics, but the pull of Amstrad was too much. Ray has now re-established himself at Nunawading Electronic World, 296 Whitehorse Road, Nunawading, Vic 3131. He is happy to discuss your Amstrad requirements be they hardware or software or other electronic consumables including CBs.

Amstrad on show

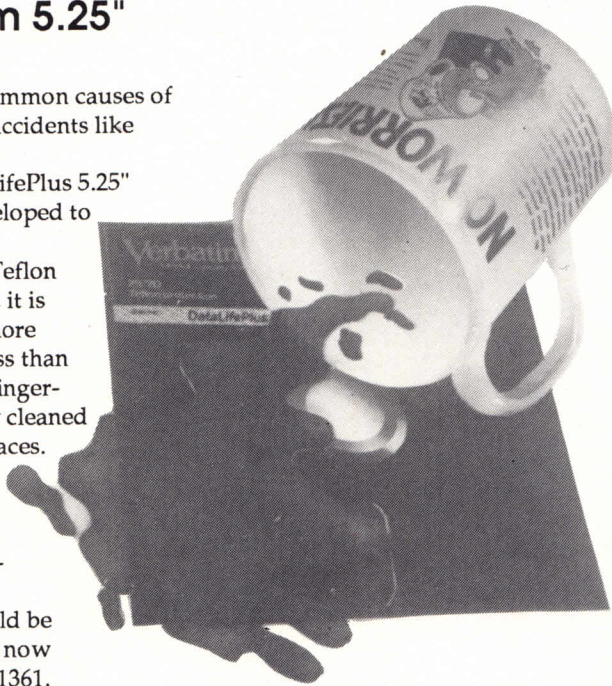
Amstrad Pty Ltd., the Australian arm of the Sugar empire, made a low-key appearance in Sydney at the Personal Computer Show held at Darling Harbour at the end of March. On display were the new portable PPC machines and the PCW 9512. It is believed that both of these machines will be launched in Australia shortly after Amstrad officially commence trading on 1st June.

Many readers will only know Amstrad for their computer products, but the company originally rose to fame in the UK by marketing competitively priced audio, video and TV products. Many of the latest non-computer products will also be made available for the first time in Australia. The products will all be the subject of a large advertising campaign to hit us soon.

New Verbatim 5.25" discs

Apparently, the most common causes of data loss are everyday accidents like fingerprints and spills.

Verbatim's new DataLifePlus 5.25" floppies have been developed to counter these problems by having a coating of Teflon on both surfaces giving, it is claimed, fifteen times more protection from data-loss than any other competitor. Fingerprints are automatically cleaned from the recording surfaces. Each disc also comes with Verbatim's unique Datahold Anti-Static Liner and is pre-formatted for IBM PCs and compatibles. They should be available at your dealer now otherwise ring (03) 241 1361.



EasyFile (v1.0) from Living Image

A new filing system for CPCs has been developed by Living Image. The press release states that it is menu driven with clear, well laid out options making selection easy. There is a main menu, help menu, editor sub-menu and printer sub-menu. The filing system creates variable length files and security consists of using a password to code the files.

EasyFile also comes with a Mailmerge facility to use with unspecified word processors. The price on disc only is \$24.95 (including postage) and includes after-sales service.

N.E.W. IN MELBOURNE'S EASTERN SUBURBS THE SOFTWARE SPECIALISTS

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Get to know your Bank Manager

Part 2 of a three part series from Anthony Trost on using the bank switching software supplied with the CPC6128

So far I have only touched on the use of the Bank Manager to store screen images. This facility would appeal to those users of SCREEN DESIGNER type programs. By storing away a screen just before a masterful stroke of the electronic brush, you could recall your previous Masterpiece once you realise that your stroke was more desecration than inspiration. No damage done. However, a more exciting use of the second 64k of your AMSTRAD CPC 6128 is for storage and retrieval of data.

My first foray into the use of the remaining four bank manager RSX commands, namely...

```
|BANKOPEN
|BANKREAD
|BANKWRITE and
|BANKFIND
```

was when I wrote a program that would store the names of every file I had on every disc and at a touch of a few keys know instantly where any file was or how many of a certain file existed. It did not take long to realise that the program and all the data could not fit into the first 64K or be stored by the use of an array. Once the array was dimensioned there was no room left for the data.

When used to store data, we refer to the second 64k bank as a RAMdisc and the entire data base thereon as the RAMfile. Any distinct piece of data, called a record, held on the RAMdisc can be accessed almost instantaneously. We can move at will to any record we wish without having to read all previous records to reach it. The bank manager provides its own search facility that is amazingly quick.

I would not recommend that from now on all CPC 6128 owners discount the use of arrays. Arrays are quick and easy to manipulate, especially when the data being stored has varying lengths. However, for a program that manipulates upwards of a thousand pieces of data, I'd seriously look at storing the data on the RAMdisc.

The RAMdisc, like those floppies purchased from the shop, has to be partitioned in some fashion that allows distinct blocks of information to exist in a recognizable format. The format procedure is quite simple. If I wish the RAMdisc to be partitioned into large enough sections that would hold names of people, a maximum of 20 characters per name - the command would be...

```
|BANKOPEN, 20
```

This partitions the whole RAMdisc into 20 byte sections. Anything to be stored on the disc now must be of 20 characters or less in length. Anything larger will be truncated on the right to fit the 20 character limit. Limitations are now cropping up all over the place but with a thorough knowledge of string handling techniques a name, address and telephone number could be joined and placed in a record, length of around 50 characters - requiring |BANKOPEN, 50 to initialize the RAMdisc.

Once the RAMdisc has been partitioned a method is now needed to enter and recall data. To write data to the RAMfile the command is...

```
|BANKWRITE, @<return code>, <string expression>, <optional RAM record number>
```

To read a file from the RAMdisc the command is...

```
|BANKREAD, @<return code>, <string expression>, <optional RAM record number>
```

An example of writing to the RAMdisc would be the following. Type it in and run it now.

```
10 r%=0
20 |BANKOPEN, 10
30 |BANKWRITE, @r%, "1234567890",8
40 PRINT r%
```

The |BANKOPEN command partitions the RAMdisc into sections capable of holding 10 characters. The |BANKWRITE command places the ten digits into record number 8. The r% is an integer, a whole number which contains specific information about what we have just done. the variable r% must be created before it is used and as a general rule, set to

zero to begin with. If all things went well it will hold the value of 8. This tells us that we just wrote to record number 8. If it holds -1 it means that we tried to write to a record number that was just too big. This would happen if our RAMdisc has space enough to hold 5000 records and we tried to write to record number 6000. Try this:

```
10 r%=0
20 |BANKOPEN, 100
30 |BANKWRITE, @r%, "1234567890", 9000
40 PRINT r%
```

The variable `r%` should contain -1 telling us that record 9000 is in excess of the number of records available for use. The other error we could get results in `r%` being -3. The manual tells us that this is a bank switching error and should never happen.

Those of you who bought your CPC6128 when they first came out will find that your manual has a printing error in Chapter 8, pages 5 and 6. It states that the return code of -2 indicates a bank switching error has occurred. THIS IS NOT SO. The return code of -2 is used for something else. A recently printed manual I chanced to glance at has the error rectified.

An example of reading a record from the RAMfile would be the following. Type it in and run it now.

```
10 |BANKOPEN, 10
20 r%=0
30 r$=SPACE$(10)
40 |BANKWRITE, @r%, "ABCDEFGHJIJ", 90
50 |BANKREAD, @r%, r$, 90
60 PRINT r%, r$
```

In the above 6 lines I set each RAM record to a length of 10. I initialised `r%` to be 0 and created a variable, `r$`, that contains 10 spaces. The need for this was a hard concept for me to understand at first and deserves further explanation.

|BANKREAD will take the contents of a record and then look for a variable in which to place those contents. The variable has to be created beforehand and be large enough to hold the contents of the record. Assigning a string containing the appropriate number of spaces is an efficient and easy way to satisfy this condition.

If `r$` is too short, then characters from the right will be discarded. If `r$` is too long then the left most part of the string will be the letters A to J and the right most part will be old characters left over from the time before.

To continue, the letters A to J are placed in record 90 by the |BANKWRITE command. The |BANKREAD command reads the contents of RAMfile number 90, places this in `r$` and finished by putting an information code into `r%`. If all went well then `r%` will equal 90, confirming the file number read from and `r$` will be ABCDEFGHJIJ whereas it used to be a series of ten spaces.

Let's just have a further look at this need to set up a suitable variable before hand. We'll begin by turning off the machine and re-running BANKMAN. Incredible as it may sound, resetting your machine will not clear the RAMdisc. All data will be intact after a RESET has been performed. In the following example I will place a record into a variable that is too short and then one that is too long. The results will speak for themselves. Don't forget to run BANKMAN again, will you?

```
100 short$=SPACE$(5)
110 long$=STRING$(15,"=")
120 r%=0
130 |BANKOPEN, 10
140 |BANKWRITE, @r%, "ABCDEFGHJIJ", 10
150 |BANKWRITE, @r%, "ABCDEFGHJIJ"
160 |BANKREAD, @r%, short$, 10
170 |BANKREAD, @r%, long$
180 PRINT short$
190 PRINT long$
```

Excuse the pun but that is the long and the short of it all. I purposely chose this particular program to illustrate to you one other helpful facility built into the |BANKREAD and |BANKWRITE commands. In line 60, |BANKWRITE wrote ten letters to record 11 because once a RAMrecord has been written, the current record number automatically increases by one. |BANKREAD will also progress to the next record once a RAMrecord has been read from. That is why I did not need to specify the exact records I wanted in lines 60 and 80. It can be compared quite favourably to the way READ and DATA operate.

Another point worth mentioning at this time is the effect of |BANKOPEN. Once this command is invoked it sets the current record number to zero BUT DOES NOT HAVE ANY EFFECT ON THE CONTENTS OF THE RAMDISC AT ALL.

As you read before, the RAMdisc is pretty resilient and holds its data, even after a reset. It should be possible then to |BANKOPEN at a record length of 10, write your records then |BANKOPEN at 20 and recall all your records back in pairs with the |BANKREAD command. Try this one now>

```
10 r%=0
20 r$=SPACE$(20)
30 |BANKOPEN, 10
40 |BANKWRITE,@r%, "ABCDEFGHJIJ"
50 |BANKWRITE,@r%, "1234567890"
60 |BANKOPEN, 20
70 |BANKREAD,@r%, r$
80 PRINT r%, r$
```

Another thing that you should notice is that record number 0 is quite valid. I generally tend not to use it. I prefer to count from 1, not 0.

Relocating Z80 Code - Part 2

by Petr Lukes

This is a modification of the RELOC1 routine, which showed how to implement relocatable "short" CALLs, within the range of relative jumps. Here the CALLs are "long", i.e. the subroutine can be anywhere within the 64k addressing range. As before, the sequence 'EX (SP),HL and JP (HL)' returns with the address of the byte following the RST 6, but the target address for the 'JP (HL)' is obtained by adding the distances between the current location and the start of the subroutine. This distance is in the register DE and is computed at the time of assembly. Once we have the target address, the register DE is loaded with the distance between the byte we are jumping to and the byte we want to return to, so that the subroutine can place the correct return address on the stack, by adding the displacement to the register HL before exchanging the top of the stack and the contents of HL. Note that this displacement is negative, but appears as a large number. Adding this number has the same effect as subtracting its complement.

The subroutine is again the binary-to-hex conversion, but is called only twice to deal with the low byte of the entered number. This is sufficient to demonstrate that the HL register is not changed by the manipulations, until the final long jump is implemented. Incidentally, the conversion algorithm is an inspired piece of programming attributed to a certain Bill Byerley of INTEL, the designers of the 8080 processor.

There is no example of relocatable buffer addressing, but it could be implemented in a way similar to the final jump. It must be remembered that the initial contents of HL is saved on the stack by the sequence at RST 6; unless it is used as a return from a subroutine, the top of stack must be cleared to prevent an eventual return to a meaningless address, leading to a crash. For a program which addresses buffers more often than subroutines, it would be more efficient to initialise RST 6 to 'POP HL and JP (HL)' or 'POP IY and JP (IY)', which would not leave anything on the stack. But relocatable buffers could be implemented by dimensioning an integer array, passing the address of its first element to the routine, then using indexed addressing to store and retrieve values.

There are many ways to overcome the relocatability problem, but for long complex routines it may be simpler to use a relocater at the time of loading or initialisation. A number of examples have appeared in the magazines, using both BASIC and machine language. I prefer the method of storing the routine in an integer array (as used in these examples) and adjusting any absolute addresses just before each CALL from BASIC. There is one possible problem: the array may lie under the ROM if the BASIC program is short, so that the

selection of the lower ROM would lead to a crash. I found that out the hard way when I tried to copy the lower ROM to RAM, but normally there is no occasion to want to select the lower ROM. The operating system handles the ROM selection and restoration as required, without getting lost. (The solution to the problem was to store the routine in a string, just below the upper ROM.)

```

10 PRINT"RELOC2 Relocatable Z80 code LKS 880102"
20 DIM reloc2%(29)
30 'Set up RST 6
40 x$="ld hl,e9e3":DATA 21,e3,e9
50 x$="ld (0030),hl":DATA 22,30,00
60 'Convert a binary number to hexadecimal
70 'Get number into L (low byte only)
80 x$="ld l,(ix+0)":DATA dd,6e,00
90 'Low byte,high nibble
100 x$="ld a,l":DATA 7d
110 x$="rst 6":DATA f7
120 x$="Lh: ld de,Sh-Lh":DATA 11,19,00
130 x$="add hl,de":DATA 19
140 x$="ld de,Rlh-Sh":DATA 11,ef,ff
150 x$="jp (hl)":DATA e9
160 'Low byte,high nibble
170 x$="Rlh: ld a,l":DATA 7d
180 x$="rst 6":DATA f7
190 x$="Ll: ld de,Sc-Ll":DATA 11,13,00
200 x$="add hl,de":DATA 19
210 x$="ld de,Rll-Sc":DATA 11,f5,ff
220 x$="jp (hl)":DATA e9
230 'Long jump
240 x$="Rll: rst 6":DATA f7
250 x$="Ex: pop de [tidy up stack]":DATA d1
260 x$="ld de,Exit-Ex":DATA 11,18,00
270 x$="add hl,de":DATA 19
280 x$="jp (hl)":DATA e9
290 'Subroutine
300 x$="Sh: rra rra rra rra":DATA 1f, 1f, 1f, 1f
310 x$="Sc: add hl,de":DATA 19
320 x$="ex (sp),hl":DATA e3
330 x$="Sl: and 0f":DATA e6,0f
340 x$="add a,90 daa adc a,40 daa":DATA c6,90, 27, ce,40, 27
350 x$="call txt_output":DATA cd,5a,bb
360 x$="ret":DATA c9
370 'Exit
380 x$="Exit: ld a,07 [bell]":DATA 3e,07
390 x$="call txt_output":DATA cd,5a,bb
400 x$="ret":DATA c9
410 FOR a=0 TO 29:READ x$,y$:reloc2%(a)=VAL("&"+y$+x$):PRINT a,x$,y$
420 NEXT a
430 ON ERROR GOTO 490
440 PRINT:INPUT"Enter number 0 to 255 ";a:b=UNT(a)AND 255
450 PRINT"Converting decimal "b"to hex"
460 PRINT"Conversion by BASIC : "HEX$(b,2)
470 PRINT"Conversion by m/1 : ";CALL @reloc2%(0),b:PRINT
480 GOTO 440
490 PRINT"Entry is outside integer range":RESUME 440

```

Gallimaufry XI

Get set to turn Arnold into a talker, a 6128, and an Arabic-style writer

Sound Digitiser

With this amazing listing Arnold can speak with your voice - or mimic Electric Blue - or reproduce any sound a microphone can record on an ordinary cassette.

The program is a simple sound sampler. When you play the audio tape on the 664's datacorder or a tapedeck plugged into the 664 or 6128, the sounds are converted to the digitised form that Arnold can understand.

After running the program (you saved it first, of course) you will have two RSX commands at your disposal, |RSOUND and |PSOUND. |RSOUND has to have several parameters after it. The computer needs to know location and length: where in memory to load the sound data and how much of it. These two parameters must be present, otherwise an error will occur. A third optional variable controls the speed or rate of data entry into memory.

|PSOUND is similar to |RSOUND in that the first two parameters must be present. |PSOUND instructs the computer to output through the Amstrad's internal loudspeaker any data it may have picked up during the execution of |RSOUND. Again there is a third parameter; this time it controls the loudness at which the sound will be output.

|R and |P are identical to |RSOUND and |PSOUND. These are for all incredibly lazy people who hate long commands - I am just too kind!

Below is a simple break down of how to use each command;

|PSOUND, *location*, *length*, *rate of data entry*

|RSOUND, *location*, *length*, *loudness*

location can be between 0 and 65536 (&FFFF)

length can be between 0 and 65536 (&FFFF)

rate of data entry can be between 1 and 255 (&FF)

loudness can be between 1 and 15 (&F); 15 is the loudest

If you wish to include this digitiser in your own programs, run it and save the machine code as below;

```
SAVE "DIGITISER", B, &9000, &210
```

and to load it back;

```
MEMORY &8FFF:LOAD "DIGITISE.BIN":CALL &9000
```

To summarise, follow these short steps:

1. Place the cassette with you voice or music into the tapedeck
2. Type in direct mode: |RSOUND, &3000, &5000
3. Follow the prompts
4. When 'Ready' appears, type: |PSOUND, &3000, &5000
5. WOW !!

6. Read the article again - try something more adventurous.

```
100 ' SOUND DIGITIZER
110 ' by Richard Monterio
120 ' The Amstrad User, May 1988
140 FOR t=&9000 TO &9207
150 READ a$:x=x+VAL("&"+a$)
160 POKE t,VAL("&"+a$):NEXT t
170 IF x<>57871 THEN 210
180 PRINT"DATA OK - WELL DONE"
190 CALL &9000:MODE 2:PRINT "The Following Commands:"
200 PRINT:PRINT"|RSOUND":PRINT"|PSOUND":PRINT:PRINT"Are No
w Installed.":END
210 PRINT"ERROR IN DATA":STOP
220 DATA 01,0A,90,21,1B,90,CD,D1,BC,C9
230 DATA 1F,90,C3,31,90,C3,31,90,C3,97
240 DATA 90,C3,97,90,C3,7D,91,00,00,00
250 DATA 00,D2,52,53,4F,55,4E,C4,50,53
260 DATA 4F,55,4E,C4,D0,52,50,CD,00,ED
270 DATA 73,84,91,FE,03,C2,4C,90,DD,7E
280 DATA 00,FE,00,CA,D7,90,32,0F,91,DD
290 DATA 23,DD,23,C3,56,90,FE,02,C2,D7
300 DATA 90,3E,0D,32,0F,91,DD,5E,00,DD
310 DATA 56,01,DD,6E,02,DD,66,03,E5,CD
320 DATA 6E,BC,21,CB,91,CD,DE,90,3E,42
330 DATA CD,1E,BB,C2,C7,90,3E,2F,CD,1E
340 DATA BB,C2,7F,90,C3,6C,90,21,9D,91
350 DATA CD,DE,90,D5,CD,A7,BC,D1,E1,CD
360 DATA E9,90,3E,07,CD,5A,BB,CD,71,BC
370 DATA C9,ED,73,84,91,FE,03,20,0E,DD
380 DATA 7E,00,E6,0F,32,51,91,DD,23,DD
390 DATA 23,18,0A,FE,02,C2,D7,90,3E,0F
400 DATA 32,51,91,DD,5E,00,DD,56,01,DD
410 DATA 6E,02,DD,66,03,CD,14,91,C9,3E
420 DATA 0A,CD,5A,BB,CD,5A,BB,CD,71,BC
430 DATA ED,7B,84,91,C9,21,86,91,CD,DE
440 DATA 90,C9,7E,FE,00,C8,CD,5A,BB,23
450 DATA C3,DE,90,F3,E5,DD,E1,06,08,AF
460 DATA CD,05,91,CD,0E,91,17,10,F7,DD
470 DATA 77,00,DD,23,1B,7A,B3,20,EA,FB
480 DATA C9,C5,06,F5,ED,60,CB,14,C1,C9
490 DATA 26,0D,25,20,FD,C9,E5,D5,CD,33
500 DATA 91,D1,E1,06,08,CB,06,C5,DC,4D
510 DATA 91,D4,57,91,C1,10,F4,23,1B,7A
```

```

520 DATA B3,20,EC,CD,A7,BC,C9,CD,A7,BC
530 DATA F3,3E,03,0E,00,CD,61,91,3E,07
540 DATA 0E,3D,CD,61,91,3E,02,0E,00,CD
550 DATA 61,91,C9,F5,3E,09,0E,0F,CD,61
560 DATA 91,F1,C9,F5,3E,09,0E,00,CD,61
570 DATA 91,F1,C9,F5,3E,C0,06,F6,ED,79
580 DATA 06,F4,F1,ED,79,06,F6,3E,80,ED
590 DATA 79,06,F4,ED,49,06,F6,AF,ED,79
600 DATA C9,21,F6,91,CD,DE,90,C9,00,00
610 DATA 07,0A,0D,50,41,52,41,4D,45,54
620 DATA 45,52,20,45,52,52,4F,52,07,0A
630 DATA 0A,0D,00,07,18,2A,2A,2A,2A,2A
640 DATA 2A,2A,2A,20,50,4C,45,41,53,45
650 DATA 20,57,41,49,54,20,52,45,43,4F
660 DATA 52,44,49,4E,47,20,2A,2A,2A,2A
670 DATA 2A,2A,2A,2A,18,0D,0A,0A,00,07
680 DATA 0D,0A,50,52,45,53,53,20,54,48
690 DATA 45,20,53,50,41,43,45,20,42,41
700 DATA 52,20,54,4F,20,53,54,41,52,54
710 DATA 20,52,45,43,4F,52,44,49,4E,47
720 DATA 0D,00,07,0D,0A,0A,A4,20,52,70
730 DATA 4D,20,31,39,38,36,0D,0A,0A,07

```

464 to 664/6128

Now here's a beauty for 464 owners. This listing from Eric Prattley provides 464 owners with a set of RSX commands that emulate the extra Basic commands found on the 664 and 6128. Included is a short demo. 664 and 6128 users might find the |CIRCLE command quite useful. The program installs seven new commands:

|FILL, *colour* (FILL on 6128) - allows an area to be filled with a particular colour (*colour*) very quickly.

|CIRCLE, *radius* draws a circle of a given color.

|FLUSH (CLEAR INPUT on 6128) - clears the input buffer of anything previously typed in.

|FRAME (FRAME on the 6128) synchronizes the writing of graphics to the screen with the frame flyback. Removes unwanted flicker in animation sequences.

|GPAPER, *colour* (GRAPHICS PAPER on 6128) - sets the background graphics colour (*colour*); then area behind graphics drawn on the screen.

|GPEN, *colour* (GRAPHICS PEN on 6128) - sets the ink (*colour*) to be used for drawing and plotting points.

|GMODE, *mode* - selects the drawing mode (*mode*), 0 to 2.

```

1000 ' 464 to 664/6128
1010 ' by Eric Prattley
1020 ' The Amstrad User, May 1988.
1030 '
1040 MODE 1:PRINT "Installing Extra Commands, Please Wait.
."
1050 MEMORY 41535:add=41536:lin=190
1060 FOR i=1 TO 62
1070 sum=0:lin=lin+10
1080 FOR j=0 TO 19

```

```

1090 READ a$: byte=VAL("&"a$)
1100 sum=sum+byte
1110 POKE add+j,byte
1120 NEXT j
1130 READ a$: check=VAL("&"a$)
1140 IF check<>sum THEN PRINT"Error in line";lin:END
1150 add=add+20:NEXT i
1160 CALL 41536:PRINT"Utilities now installed":GOTO 1820
1170 DATA 3E,00,B7,C0,3C,32,41,A2,01,55,A2,21,51,A2,C3,D1,
BC,00,00,00,0762
1180 DATA 00,6C,A2,C3,D7,A3,C3,90,A2,C3,D0,A6,C3,D6,A6,C3,
DA,A6,C3,E4,0DA2
1190 DATA A6,C3,EE,A6,46,49,4C,CC,43,49,52,43,4C,C5,46,4C,
55,53,C8,46,091E
1200 DATA 52,41,4D,C5,47,50,41,50,45,D2,47,50,45,CE,47,4D,
4F,44,C5,00,077A
1210 DATA FE,02,28,11,FE,01,28,1B,21,F8,A6,7E,FE,00,C8,CD,
5A,BB,23,18,089B
1220 DATA F6,CD,E1,BB,32,32,A7,DD,7E,00,CD,DE,BB,18,0A,DD,
2B,DD,2B,CD,082A
1230 DATA E1,BB,32,32,A7,CD,CC,BB,ED,53,0E,A7,22,10,A7,CD,
C6,BB,ED,53,0857
1240 DATA 33,A7,22,35,A7,ED,4B,10,A7,09,EB,ED,4B,0E,A7,09,
EB,CD,C9,BB,09ED
1250 DATA DD,6E,02,DD,66,03,22,30,A7,CB,7C,C2,BC,A3,7D,B4,
CA,BC,A3,22,0A70
1260 DATA 3B,A7,11,00,00,ED,53,3D,A7,29,EB,21,03,00,A7,ED,
52,22,3F,A7,073D
1270 DATA 2A,3D,A7,ED,5B,3B,A7,A7,ED,52,38,05,28,03,C3,BC,
A3,21,00,00,07C9
1280 DATA ED,5B,3B,A7,B7,ED,52,22,37,A7,21,00,00,ED,5B,3D,
A7,B7,ED,52,0963
1290 DATA 22,39,A7,ED,5B,3B,A7,2A,3D,A7,CD,EA,BB,ED,5B,3B,
A7,2A,39,A7,09E0
1300 DATA CD,EA,BB,ED,5B,37,A7,2A,3D,A7,CD,EA,BB,ED,5B,37,
A7,2A,39,A7,0B48
1310 DATA CD,EA,BB,2A,3B,A7,ED,5B,3D,A7,CD,EA,BB,2A,3B,A7,
ED,5B,39,A7,0B50
1320 DATA CD,EA,BB,2A,37,A7,ED,5B,3D,A7,CD,EA,BB,2A,37,A7,
ED,5B,39,A7,0B48
1330 DATA CD,EA,BB,ED,5B,3F,A7,CB,7A,2B,0A,2A,3D,A7,29,29,
01,06,00,18,0796
1340 DATA 18,2A,3D,A7,ED,4B,3B,A7,A7,ED,42,29,29,01,0A,00,
E5,2A,3B,A7,0764
1350 DATA 2B,22,3B,A7,E1,09,19,22,3F,A7,2A,3D,A7,23,22,3D,
A7,C3,08,A3,06DF
1360 DATA ED,5B,0E,A7,2A,10,A7,CD,C9,BB,ED,5B,33,A7,2A,35,
A7,CD,C0,BB,0A9F
1370 DATA 3A,32,A7,CD,DE,BB,C9,FE,01,28,0C,21,F8,A6,7E,23,
B7,C8,CD,5A,0A7B
1380 DATA BB,18,F7,CD,0B,BC,22,07,A7,32,09,A7,CD,11,BC,32,
1A,A7,CD,CC,0936
1390 DATA BB,ED,53,0E,A7,22,10,A7,CD,E1,BB,CD,2C,BC,32,1B,
A7,CD,D5,BB,0AF8

```



```

1400 DATA 3A,1A,A7,FE,02,28,13,CB,3C,CB,1D,CB,3A,CB,1B,3D,
28,08,CB,3C,0784
1410 DATA CB,1D,CB,3A,CB,1B,22,12,A7,ED,53,14,A7,CD,D8,BB,
CB,3C,CB,1D,09F8
1420 DATA CB,3A,CB,1B,ED,53,16,A7,22,18,A7,21,41,A7,11,00,
04,22,1D,A7,06CD
1430 DATA 36,01,1B,ED,53,1F,A7,DD,7E,00,CD,2C,BC,32,1C,A7,
CD,C5,A5,CD,0961
1440 DATA 2F,A6,DC,AB,A5,D0,E5,CD,50,A5,E3,CD,7E,A5,C1,3E,
FF,32,21,A7,0C43
1450 DATA E5,D5,C5,CD,7A,A4,C1,D1,E1,AF,32,23,A7,CD,47,A5,
CD,2F,A6,DC,0CBF
1460 DATA B9,A4,38,F5,2A,1D,A7,7E,FE,01,2B,24,32,23,A7,EB,
2A,1F,A7,01,0819
1470 DATA 07,00,09,22,1F,A7,EB,2B,46,2B,4E,2B,56,2B,5E,D5,
2B,56,2B,5E,05B6
1480 DATA 2B,22,1D,A7,EB,D1,18,CC,3A,21,A7,0F,C9,ED,43,24,
A7,CD,AB,A5,09A3
1490 DATA 3B,09,CD,5A,A5,D0,22,26,A7,18,11,E5,CD,7E,A5,22,
26,A7,C1,7D,08F7
1500 DATA 91,7C,98,DC,34,A5,60,69,CD,50,A5,22,28,A7,ED,4B,
24,A7,B7,ED,0A7D
1510 DATA 42,09,28,11,30,08,CD,5A,A5,DC,06,A5,18,07,E5,60,
69,C1,CD,34,079E
1520 DATA A5,2A,26,A7,ED,4B,28,A7,37,C9,D5,E5,2A,1F,A7,11,
F9,FF,19,D1,0A40
1530 DATA 30,1C,22,1F,A7,2A,1D,A7,23,73,23,72,23,D1,73,23,
72,23,71,23,0600
1540 DATA 70,23,3A,23,A7,77,22,1D,A7,C9,AF,32,21,A7,D1,C9,
CD,40,A5,CD,097F
1550 DATA AB,A5,D4,5A,A5,DC,06,A5,3A,23,A7,2F,32,23,A7,1B,
3A,23,A7,B7,08AF
1560 DATA C8,13,13,C9,AF,ED,4B,16,A7,CD,5C,A5,2B,C9,3E,FF,
C5,D5,E5,F5,0BCE
1570 DATA CD,B8,A5,F1,47,CD,9D,A5,04,10,04,30,47,AE,77,38,
43,E3,23,E3,0989
1580 DATA ED,52,28,3C,19,CD,5C,A6,18,E7,C5,D5,E5,ED,4B,18,
A7,CD,B8,A5,0B2A
1590 DATA B7,ED,52,28,27,19,CD,42,A6,CD,9D,A5,28,1E,AE,77,
E3,2B,E3,18,0996
1600 DATA EB,3A,1B,A7,AE,A1,CB,3A,1C,A7,AE,A1,CB,37,C9,C5,
D5,E5,CD,78,0BD6
1610 DATA A6,CD,9D,A5,E1,D1,C1,C9,C5,D5,CD,78,A6,D1,E3,CD,
78,A6,EB,E1,0EE1
1620 DATA C9,CD,C6,BB,22,0C,A7,ED,53,0A,A7,CD,C0,BB,E5,CD,
11,BC,ED,44,0BD5
1630 DATA DE,FD,26,00,6F,CB,7A,28,03,EB,19,EB,2F,A3,5F,7D,
2A,0E,A7,19,0875
1640 DATA 0F,DC,3D,A6,0F,DC,3D,A6,D1,E5,7A,07,30,01,13,CB,
83,2A,10,A7,0846
1650 DATA 19,D1,C3,3D,A6,2A,14,A7,37,ED,52,F2,19,A6,2A,12,
A7,B7,ED,52,0975
1660 DATA 37,F0,F6,FF,C9,AF,C9,2A,16,A7,B7,ED,52,FA,16,A6,
2A,18,A7,37,0B10

```

```

1670 DATA ED,52,F2,19,A6,37,C9,E5,CD,05,A6,E1,D0,D5,EB,CD,
1B,A6,EB,D1,0D08
1680 DATA C9,CB,2C,CB,1D,C9,7C,C6,08,67,E6,38,C0,7C,D6,40,
67,7D,C6,50,0ABC
1690 DATA 6F,D0,24,7C,E6,07,C0,7C,D6,08,67,C9,7C,D6,08,67,
E6,38,FE,38,0A2B
1700 DATA C0,7C,C6,40,67,7D,D6,50,6F,D0,7C,25,E6,07,C0,7C,
C6,08,67,C9,0A53
1710 DATA D5,EB,21,C7,00,B7,ED,52,7D,E6,07,87,87,87,4F,7D,
E6,F8,6F,54,0B0A
1720 DATA 5D,29,29,19,29,D1,C5,CD,BF,A6,78,A3,28,05,CB,09,
3D,20,FB,E3,0910
1730 DATA 61,4D,E3,78,0F,CB,3A,CB,1B,0F,3B,F9,19,ED,58,07,
A7,19,7C,E6,08CD
1740 DATA 07,67,3A,09,A7,84,81,67,D1,4A,C9,3A,1A,A7,FE,01,
01,AA,01,D8,0826
1750 DATA 01,88,03,CB,01,80,07,C9,CD,09,BB,38,FB,C9,CD,19,
BD,C9,FE,01,099D
1760 DATA C0,DD,7E,00,CD,E4,BB,C9,FE,01,C0,DD,7E,00,CD,DE,
BB,C9,FE,01,0C98
1770 DATA C0,DD,7E,00,CD,59,BC,C9,53,79,6E,74,61,78,20,45,
72,72,6F,72,0977
1780 DATA 0A,0D,00,00,00,00,00,00,00,00,00,00,00,00,00,00,
00,00,00,00,0017
1820 MODE 1
1830 FOR y=100 TO 300 STEP 100
1840   FOR x=100 TO 540 STEP 100
1850     MOVE x,y
1860     FOR r=45 TO 0 STEP -15
1870       !CIRCLE,r
1880       !FILL,r\15
1890     NEXT r
1900   NEXT x
1910 NEXT y
1920 GOTO 1920

```

Reverse Screen

Rather than have text appear on screen from left to right, why not have it run Arabic-style from left to right? Andrew Smith's routine does just that. Run the listing once. All text will now appear from the right. To switch this effect off, type `CALL &BB4E`.

```

10 n=42591:MEMORY n-1:FOR a=n TO n+1C:READ a$:POKE a,VAL(
"&"+a$):NEXT
20 a$=HEX$(n+&D,4):b$=HEX$(n+&1B,4)
30 POKE n+7,VAL("&"+RIGHT$(a$,2))
40 POKE n+8,VAL("&"+LEFT$(a$,2))
50 POKE n+4,VAL("&"+RIGHT$(b$,2))
60 POKE n+5,VAL("&"+LEFT$(b$,2))
70 CALL n
80 DATA 2A,D4,BD,22,1B,40,21,0D,40,22,D4,BD,C9,F5,E5,CD,69
,BB,7A,94,D6,01,E1,94,67,F1,C3,02,00

```

Two games and two utilities

TETRIS

Mirrorsoft
cassette and disc
(joystick or keys)

Watch out, the Russians are coming. A Soviet invasion is about to be unleashed on the unsuspecting public. Before you go out and barricade the streets and prepare to repel the invaders, fear not, it's only a computer game. The game was programmed by Vagim Gerasimov, a student at Moscow University and has been brought out via Hungary. It's the first time that a game originating in the Soviet Union has reached our shores.

Tetriminoes are shapes made up of four squares linked along their edges. They include straight pieces, squares, "L" shapes, "T" shapes and many others. The principle of the game is very simple, a random tetriminoe appears at the top of the screen and falls towards the bottom. While it's falling you can rotate the shape through 360° in 90° steps and move it left or right. When it reaches the bottom of the screen or lands on top of another shape it stops moving and another shape appears. If the pile of shapes reaches the top of the screen then the game ends and you have to begin all over again. Points are scored for every piece that you manage to fit on the screen before it's filled. Strategy features heavily in the game because you need to keep forming horizontal rows of colour across the screen. If you complete a row then it disappears and the blocks above move down a row. The clearer you keep the screen the longer that you will be able to keep scoring.

The basic layout between each version,

(CPC, PCW, PC) is nearly identical and the concept behind game play is the same.

CPC Version

On the screen there is a playing area in which your tetriminoes fall and on either side of that is the status area. In the status area is your score, level, number of filled rows, a summary of the key commands, a record of how many of each piece has fallen and a window in which the next piece can be shown. The level setting determines how fast the shapes fall. After every ten rows are filled the level increases by one until it reaches the maximum of nine.

To make play a little easier you can switch on the next shape window and the shape that will follow the one currently descending the screen is displayed. This information is very useful, especially on higher levels, because you have very little time to make a decision on where the shape is to be positioned. If you leave spaces between the blocks then the screen will fill up more rapidly and the end of the game will draw near. If there are spaces on screen and you complete a row above it then you may eventually get into a situation where that empty space can be filled again.

Graphics are very simple since all they are is squares linked together that fall down the screen (you wonder if it was programmed in Basic). The shapes are colourful, and the rest of the screen has a interesting design to it. There are no sound effects, but a good, if a little irritating, tune plays throughout the game.

PCW Version

Due to lack of colour on the PCW, the tetriminoes have different shades to distinguish the differences. There is no

tune while playing the game but a beep sounds every time a tetriminoe falls into place. The title screen and screen layout look a shade better than the CPC version, however the game operates at a slightly slower speed.

PC Version

The Russian original of the game was produced on an IBM PC and the presentation is simply brilliant. The program is memory resident and is compatible with the CGA, EGA (all resolutions) and Hercules graphics cards. One extra feature with this version is you get to select the starting height of the tetriminoes. If you select 13, the highest, you are already near the top of the screen when the first block falls. Being memory resident, you can exit the game, (go into DOS) perform what ever task you like (as long as you do not turn of the computer) then enter the game and continue from where you left off. As you would do if you were using Borland's Sidekick.

Buy it, Yes or No?

As far as gameplay goes it does have a certain appeal. Careful thought is needed as to where a shape should be put, because the wrong decision can quickly end your game. After a few games you begin to pick up the principles and your scores grow rapidly. The only major problem with Tetris is that when you start playing you do not want to stop. You get the urge not to make that simple mistake you made last time which ended your game. PC and PCW owners I recommend this game to you, CPC owners, well it is something different and good value for money.

TETRIS is available through this magazine. CPC Disc - \$34.99, Tape - \$29.99, PCW - \$52.95 & PC - \$49.99.

STAR WARS

Domark
cassette and disc
(joystick or keys)

Briefing Session:

Those evil-minded minions of the Empire have placed a planet-sized space ship called the DEATH STAR in a position where it will shortly be able to do a lot of damage. It is now up to me, Luke Skywalker, in case you didn't know, to save the universe from these plastic-masked meanies.

To be able to carry out this heroic deed, I have been equipped with one of the latest versions of the X-wing space-fighters. Controls are relatively simple; the joystick controls the orientation of the craft (and the position of the laser), and the fire button, logically, fires the laser. The brilliance of these designers is only surpassed by the 60 watt globe that is suspended over me as I prepare to enter the battle. My craft, so I have been advised is protected by 99 shields, which unfortunately are subject to erosion by the impact of enemy missiles and various collisions.

Velocity control is not applicable to this type of craft - it has only two speeds, flat-out and dead!

The fifteen minutes that it takes the 'battle computer' to load the program into the system is most effectively spent in having a cup of coffee and exercising the trigger fingers.

Log Entry 880314.00

Being able to select the level of enemy attack gave me a confidence boost, particularly since I was not up to "combat ready" in this type of craft.

Here comes the first wave of fighters. There must be some mal-function with my ship's monitor. The display seems a little "jerky". However, there is not enough time to worry about trifles like that; I have a mission to accomplish.

Not too difficult. Managed to get through the defending Tie-fighters with all of my shields intact.

Log Entry 880314.04

I am now flying down the Trench.

Enemy attacks from both fixed installations and more Tie-fighters.

Shields deflecting significant energy. Now down to 5 shields.

There it is! The exhaust port. Careful aim.....fire.....I've done it!.....The Battle Star is destroyed.

Log Entry 880314.10

What's this! Don't I get a well deserved hero's rest? Another wave of Tie-fighters have appeared and have to be demolished. These must have been sent from another Battle Star.

Log Entry 880314.13

A new type of enemy installation is appearing; Laser Towers.

Aha, these are destroyed by shooting the tops, while trying to manoeuvre my X-wing ship between them. Lost several shields, hope this doesn't prevent me from completing the mission.

Log Entry 880314.16

This second Battle Star has a more sophisticated Trench defence arrange-

ment. An obstacle course; both at low level and high level. I need to fly over and under and watch out at the same time for various laser-flying emplacements.

But, as I have told before, "The Sauce is With Me", so I cannot (or must not) fail.

Log Entry 880314.20

There it is (again)! The exhaust port. Careful aim, fire! I've done it (again).

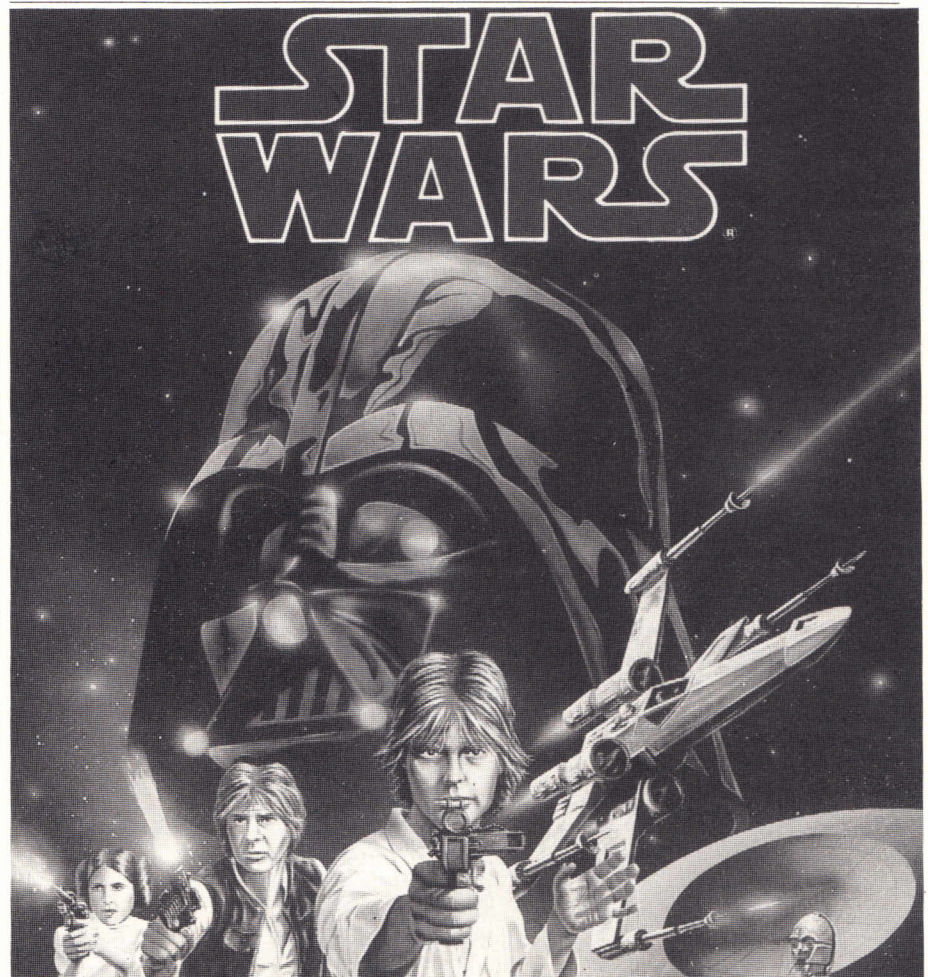
Log Entry 880314.22

Shields dead, cannot fight another wave.

De-briefing:

What a great game! Apart from the "jerky" movement, and the "wire-frame" type graphics (reminiscent to a game called Tank Busters, particularly in the explosion scenes) this is a most enjoyable "zap-the-baddies" game.

Reviewed by Andre Urankar



When has all the money gone?

Simon Anthony reviews Expendiport - a cheque management/expenditure system

I don't know whether it was a back-handed compliment to be given a copy of Expendiport to look at with the comments "it appears to be foolproof - see what you think" or if it was a reflection of my constant indebtedness to my Bank Manager. Whatever the reason, I was happy to look at a piece of software which provided a simple application at a good price, and one which could serve a useful purpose in keeping tabs on my financial transactions.

I am also always happy to look at any software which is locally produced, in other words Australian. Expendiport was written by Alan Collins who hails from Victoria and over 500 hours of development and testing has apparently been carried out before the release of the final product. The function of Expendiport is to keep a log of all the cheques you write (to a maximum of 300 each year) and to allow you to produce various listings based upon the categories you have allocated to each payment. In addition, it allows comparison between months or years or will list summaries or detailed lists of where the money has gone. It was originally developed for a 6128, and will also run on a 464 with a disc drive, but with the latter some functions take a little longer to perform.

Menu Driven

The program itself resides on one disc and you are recommended to keep a blank formatted disc free for your data files and category list (more about those later). Run "Disc" will load the program and green screen owners have the opportunity to set more legible "colours". Colour screen owners get the

choice between leaving the standard 'yellow on blue' by picking green screen or 'black on white' by picking colour screen.

The main menu presents 9 options:

- 1 - Create new file
- 2 - Load file
- 3 - Add to file
- 4 - Amend a record
- 5 - Delete a record
- 6 - Insert a record
- 7 - Save file
- 8 - Reports Menu
- 9 - Exit from program

Creating

When running the program for the first time, in other words you do not yet have any data files created or category files set up, you clearly cannot load any categories from a data disc. If you try, the program just switches back to the main menu. So if you are starting from scratch you can go straight into the file creation option without loading categories. It is wise at this stage to decide, if you can, the names or descriptions you want to apply to each of the 20 different categories, or as many as you require up to 20. You only have to do it once as the category file is saved each time with the data file to preserve continuity, and if you don't like them later on you can change them.

The information required starts with the day, month, year (yes, it does check for 31 days in June), and you only have to enter the year on the first record - the program defaults for each record after the first. Then follows the Payee (the

person you wrote the cheque to), the amount of the cheque and the cheque number (optional). The program 'remembers' the number and will display the next cheque number automatically on the next record when you get to it.

The next field to enter is the category. If you are starting from scratch (as I was), pressing 'C' will allow you to allocate the description to the category code you are entering. All the categories are displayed on the right hand side of the screen for reference purposes. You will find that you can soon throw away your original jottings on paper. The final field is for remarks (keep these short as they take up disc space) and can be used as 'markers' or 'flags' for identifying certain records when it comes to printing the report.

When you have entered all the records from your cheque book and returned to the main menu you have no choice other than to save the file. The program won't allow you to do anything else before this is done (unless you are really silly).

Short Cuts

I've already mentioned that the cheque number increments by one on each record, so you just have to hit return. The month, day and year also defaults to the previous entry, especially

useful if you have written a lot of cheques on the same day. Another neat trick is that after the third record you can shorten the Payee input name from, say, 'Sydney Saxophone Society' to 'Sydney/' or even 'Sy/'. The program will match the abbreviation with a previous entry and use that one. This

```

LIST OF CATEGORIES
*****
1. Medical
2. Car
3. Household
4. Groceries
5. Misc. living
6. Holidays
7. Entertainment
8. Dental
9. Life insurance
10. Hobbies
11. Gifts
12. Donations
13. Home improvement
14. Superannuation
15. Mortgage
16.
17.
18.
19.
20.

```

▲ A print out of the list of categories

FEBRUARY 1986						
No.	DATE	PAYEE	AMOUNT	Ch. No.	CAT	REMARKS
19	05/02/86	TARGET	\$80.00		4	
20	06/02/86	ABC FINANCE CO.	\$46.42		15	
21	08/02/86	COLES NEW WORLD	\$20.00		4	
22	12/02/86	WANGARATTA MTR. INN	\$25.00		6	
23	14/02/86	COWANS	\$12.80		5	
24	14/02/86	HAMPDEN PTY. LTD.	\$14.80		1	
25	19/02/86	WORTS	\$76.60		2	
26	19/02/86	COLES NEW WORLD	\$60.00		4	
27	19/02/86	MEDIBANK PRIVATE	\$38.30		1	
28	20/02/86	ABC FINANCE CO.	\$242.71		15	
29	26/02/86	N. R. SLATER	\$26.00		8	
TOTAL AMOUNT =			\$642.63			
=====						
▲ A print out of all the expenditure for February 1986						
GROCERIES FEBRUARY 1986						
No.	DATE	PAYEE	AMOUNT	Ch. No.	CAT	REMARKS
19	05/02/86	TARGET	\$80.00		4	
21	08/02/86	COLES NEW WORLD	\$20.00		4	
26	19/02/86	COLES NEW WORLD	\$60.00		4	
TOTAL AMOUNT =			\$160.00			
=====						
▲ A print out of the Grocery expenditure for February 1986						

cuts down typing input time and spelling inaccuracies which may tend to distort later reports.

Loading and Amending

When loading a file, it is only necessary to enter the year of the relevant file. That having been done, finding a record to be amended is achieved by searching for a record number (each record is allocated a unique number at creation time), a Payee or category. Now you know why it is better to ensure that you have identical Payee names - if you search for RMIT you won't get R.M.I.T records! Once the record has been located, using P or N will let you flick back or forward through the file.

When using the Payee search, you have the opportunity to change the Payee name against all like records. I couldn't work out why I would need this facility until I discovered that I had incorrectly spelled the Doctor's name and needed to go through the file and amend four records with his wrong name on.

Deleting and Inserting

Removing a record is not so easy (purposefully so) and can only be done by using the record number.

Inserting a record may be an obvious enough facility, especially when you may have missed a cheque, but it also serves a very useful purpose if you want to keep a log of direct debits or standing orders, ie. those payments which have been made directly from

your bank account and no cheque has been written, for example, the mortgage. Any entry through this method is checked to make sure you have not already inserted it. You can also use this method to log all your bank charges.

Saving

As the system keeps a record of the year in which you are working, it always knows the name of the file to which it will save your data. As a safety feature, the system always requires you to save the file after any changes have been made.

Reports

After all that hard work of entering your cheques and putting them into pigeon holes (categories) for a few months you will be itching to see how you have spent your money. The Reports module will reveal all. It's a separate module on the Expendiport disc and provides three kinds of reports.

The most important is no doubt the Expenditure Report. On loading, a list of parameters for the report is displayed - Month (1-12), Year (19??), Payee, Category No. and Remarks. Make your choice and you will then be asked if you require a complete list or just a summary. Select summary and you will be asked if you want it listed by month or category. In the case of monthly reports you also get the opportunity to compare your expenditure with another year, useful for seeing if you are spending

more or less (in my case, normally the former).

Expendiport has tackled the problems of calendar and financial year-ends well. The system stores data files by calendar year (eg. Jan '88 to Dec '88) but has the capability to access and produce reports for financial years (eg. Jul '87 to Jun '88). This is achieved by opening two year files and extracting the relevant first and last six months.

Entering 'F' as a Year parameter puts the system into the 'Financial Year' mode.

A report by Payee gives you the expenditure by name, this is great for budgetting. A report by 'Remarks' is also a good idea. Take your mind back to the file creation stage where the last field entered is Remarks. If you had decided to lump all car expenses under category "CAR" but wanted a breakdown between petrol and other costs, you could put 'PETR' as remarks in each petrol transaction and 'MAINT' for any others. Thus, when running a Remarks report you can isolate any record with 'PETR' or 'MAINT' in the remarks field. Beware though, the latter would also pick up any records with HOUSE MAINTENANCE in that field.

The other choices to list from the Report main menu are Categories and an alphabetical list of Payees. They are obvious enough and don't require any explanation.

Summary

I did try quite hard to 'break' the system, and apart from resetting the machine, it is very difficult to lose the data being worked upon. In that respect it passes the fool-proof test. Unless you are determined to mess things up, the whole package is carefully constructed to remain intact even at the hands of an accident-prone beginner. It can be classed as user-friendly and this in turn means it is easy to use and well presented. There is nothing flashy about it - there doesn't have to be. Expendiport is the result of a lot of work to present a functional and useful piece of software in an easy format. It will certainly become part of my library of software.

Expendiport is available on disc only through The Amstrad User for \$39.95 post free.

A sign of the times

We take a critical look at Dataflow's PrintMaster Plus for the CP/M+ machines

You run a small business, a shop maybe, and you want to advertise a new home made cake you wish to sell. So what do you do? You get out your pencils and coloured texters and spend an hour or so creating a nice sign to go on your shop window. Or you use PrintMaster Plus. The same applies to Banners, Letterheads, Calendars (monthly or weekly) or Greeting Cards (or what ever type of card for that matter).

PrintMaster Plus from Dataflow allows you to do all of the above and have the results printed out on a dot matrix printer. PrintMaster Plus is not to be confused with PrintMaster, which performs an entirely different task.

Getting Started

Insert a CP/M disc, boot it up, insert the PrintMaster Plus (side A of course) and at the A> prompt type, "PM" press the RETURN key and you are away. PCW owners have to run a setkeys file first to configure the keyboard.

You are now presented with a menu, with a border made up of "+" signs, "-" signs and "=" signs. (Why the programmers haven't used the graphic characters incorporated into the CP/M+ character set I cannot understand). The menu displays 7 options;

- Greeting Card
- Sign
- Stationery
- Calendar
- Banner
- Setup
- Exit to DOS

Each one of these items can be selected by moving the ">" and "<" signs with

the arrow keys and then pressing the RETURN key to select an option. The CLR key is used to go back to the previous menu (only applicable after leaving the main menu) or if you are using a PCW you would use the CAN key.

Creating A Greeting Card

Creating a greeting card would be the most involved of all of the features PrintMaster Plus provides. After selecting this option you are presented with another menu with the following options;

- Design Your Own
- Print Ready Made
- Edit Ready Made

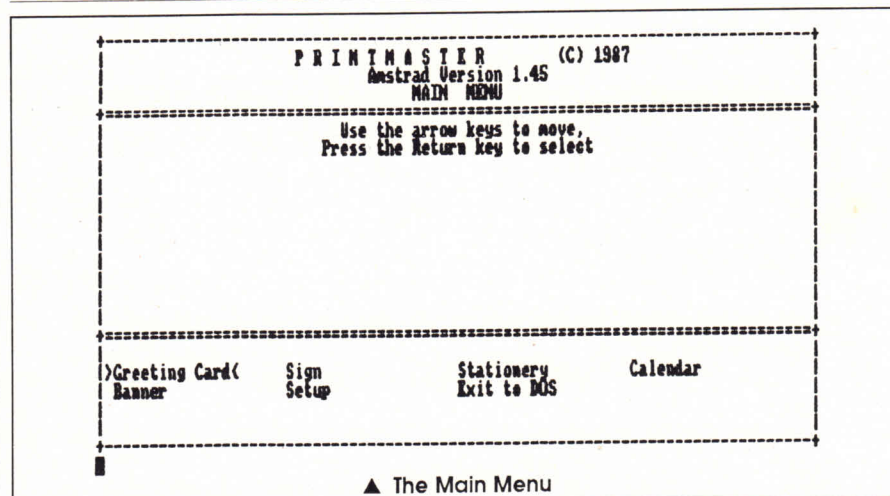
Whichever option you select from the main menu, either it be a greeting card or a banner you are always presented with the above options. As we are starting from scratch, we will select; Design Your Own. In doing so a menu with the following options is presented;

Border Cover

- Text Font Cover
- 1st Graphic Cover
- 2nd Graphic Cover
- Border Inside
- Text Font Inside
- 1st Graphic Inside
- 2nd Graphic Inside

When making a card, either a Christmas, Birthday or whatever, the chances are that you will have a picture or two on the front cover, some text of course, one or two pictures inside the card and not forgetting the text. This is PrintMaster Plus's limit. It would be nice to make a choice of how many pictures you can use at once but it isn't there. When creating a card I would prefer it if I could use more than one font on the inside, one for my cute little poem (always steals the girls hearts) and the other where I write my message to my loved ones. Again PrintMaster Plus only allows me one font for the cover or inside.

The one thing I found very annoying with PrintMaster Plus was the need for changing discs all the time. This problem could be over come by using two disc drives (PrintMaster Plus would be





SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20 My B/Day	21
22	23	24	25	26	27	28
29	30	31				

▲ A monthly calendar printed using a DMP-2000 printer



▲ A sign printed using the PCW printer

happy but my budget wouldn't). Or if you cooked at lot of eggs, (fried of course) you would be very used to the procedure of ejecting a disc, flipping it over, then putting it back in the drive. After creating your Card, you are

asked if you want to save it or print it. In about half an hour you should have your printer spitting out paper and you notice your masterpiece isn't quite what you expected. It is a pity that you cannot view your card before printing, but for

someone who uses an "=" sign for a border, I can understand why the view option isn't there.

Creating A Sign

After selecting Sign from the main menu, you again are asked for the choice of printing, creating or loading signs. Like before we will select the Design Your Own function. You are now presented with the options;

- Border
- Text
- Graphic 1
- Graphic 2
- Finished

Selecting Border, takes you to a menu where you pick the menu you desire for the sign. Page 10 of the instruction manual shows all the borders you can select. There are eleven in all and cover a variety of topics.

Selecting Text will present you with a menu where you select the font you wish to use. As with creating a greeting card, disc swapping is very great at this stage, so do not make the mistake of choosing the wrong font, otherwise you

"ONCE UPON A TIME -"

There were

THREE BEARS:

who had
a

MAGIC SWORD:

and went
to a

PLAYSCHOOL:

which
became a

FUNSCHOOL 1, 2 & 3:

A full colour graphics adventure for children. It introduces the child not only to adventure-type games but relies upon the child entering logical answers to solve a problem.

A graphic adventure program for young children, it comprises both a full colour story book and a disc. The child first reads the story book, then completes the storyline in the program. A totally new approach to enforcing logic, predicting and puzzle solving.

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- QUEENSLAND: Pactronics Pty. Ltd., 12 Stratton Street, Newstead. (07) 854 1982
- SOUTH AUSTRALIA: Baringa Pty. Ltd., (08) 271 1066 ext. 6132
- WESTERN AUSTRALIA: Pactronics WA, 757 Canning H'way, Ardress. (09) 332 3807
- MAIL ORDER: "Software To Go" - (02) 457 8289



will spend more time swapping discs than anything else. There are 10 fonts provided with the package, and I do not know of any package that will let you design new fonts. (neither do the designers, pity)

After selecting the text you prefer, you might want to select the graphics or pictures to go on the sign. (You may select the text, graphic or the border in any order). Again more disc swapping. (Think your self lucky PrintMaster Plus fits on one disc).

At this point you are again presented with another menu where you select what size your graphic is, what type of graphic you want and where to put it. Again more disc swapping, you wrist should be about to drop off by now. Selecting Graphic 1 or Graphic 2 will take you to the same menu. PrintMaster Plus Gives you the option for 1 graphic, 2 graphics or no graphics at all.

After creating your sign you would select the Finished option, as before you are taken to the standard menu as you were when you finished your calendar.

Creating a calendar

Monthly or Weekly Calendars are very handy for the businessman or anybody for that matter who would like to make their own diary. PrintMaster Plus allows you to create simple Calendars with minimum key strokes (but not minimum disc swapping).

After selecting a calendar you are presented with the following options;

- Calendar Type
- Text
- Enhance Date
- Graphic 1
- Graphic 2
- Finished

Unlike previous menus, this time the Calendar Type must be selected first. No other option will work without stating what type of calendar you wish to use.

Selecting text defines what is at the top of the calendar either it be a monthly or weekly calendar.

A nice feature about the calendar is that you have the option to Enhance a Date, this means to put text into a certain box, like your birthday, appointment with the brain specialist or anything else. When the calendar is printed out, the

text inside a date will only come out in the Editor font.

Graphics can also be selected for your calendar but can only be positioned in two places, either side of the text at the top.

When you have finished and are happy with what the calendar may look like, select the Finished option.

Creating stationery

As stated earlier, PrintMaster Plus has the ability to make stationery, or letterheads if you prefer. After selecting stationery, you are presented with the following options;

- Text Top
- Graphic 1 Top
- Text Bottom
- Graphic 1 Bottom

Selecting Text Top or Text Bottom will present you with the same menu where you select the font you wish to use (top and bottom can be different).

When selecting graphics for the top or bottom again the same menu applies, and again the top or bottom graphics can or cannot be the same.

When you are happy with the design of your stationery select the finished option.

Creating a Banner

For the Video shop owner or a promoter, a banner is one of the best ways for your message to be seen. After selecting a banner you are presented with the following options;

- Text
- Graphic 1
- Graphic 2
- Finished

You would think with the minimum of options it wouldn't take long before you have your printer spitting out paper. Wrong!! If you use every option above you will have to change the disc over 9 times before the printer starts printing. I believe that to be a pretty poor effort. Selecting the text and the graphics is pretty self explanatory. It is the same concept used in all the functions.

After you have designed your banner select the Finished option. From far away the banner could look very nice however the drawback is the amount of

characters you may use at the one time. For a long message, you have to create several banners and join then together.

Configuring PrintMaster Plus

For owners of a second disc drive or a non DMP2000 printer, this option is for you. After selecting this option the following options are shown;

- Printer Setup
- Other Disc
- Keyboard
- Finished

All of the above speak for themselves, a simple answer to a question is normally all that is expected, except for printer setup.

After selecting Printer Setup the following options are presented;

- Select Printer
- Test Printer
- CR only
- CR and LF
- Finished

Another nice feature of PrintMaster Plus (there aren't many) is the ability to work with many different printers. You may select from a wide variety and I would be surprised if there is a dot matrix printer not supported. (Even colour printers are supported, but does PrintMaster Plus print in colour?)

After selecting the type of printer and if it needs just a carriage return plus a line feed or just a carriage return, you may print a simple test. The test pattern is a Christmas tree. When fired up, PrintMaster Plus's default printer is the DMP-2000. This is compatible with the dot matrix printer supplied with the PCW range of computers.

The Manual

After learning what keys do what, (typed on a yellow sheet of paper found in the packaging) there is no need for the manual. When the manual was designed it had the PC version of PrintMaster Plus in mind. All screen shots throughout the manual are from the PC. This is a no no in my books. When a package is designed (or converted, in this case) for a particular computer, the manual should be designed for that version only. Who wants to know that the PC version is a

ton better the the Amstrad version and has more functions? At times the manual can be very misleading, throughout it will tell you to press the Backspace key to correct your mistakes. This may be the case on other versions, but not the Amstrad version. When the need arises to correct a spelling mistake, you must erase the line(s) of text or start from scratch.

Compatibility

On the Amiga, Apple, Atari ST, Commodore, PC and IBM JX version of PrintMaster Plus is a built in graphics editor. This allows you to edit the pictures provided or create new pictures. This feature is not included with the Amstrad version. After speaking to the technical staff at Dataflow, their reason for not implementing the graphics editor on the Amstrad version was, "PrintMaster Plus on the Amstrad was designed (converted actually) using the language 'C'. This was then compiled under CP/M, thus no graphics capabilities." Try telling that to the PCW game

manufactures.

So the way to get round this problem is to use one of the graphics packages designed to create graphics for PrintMaster Plus. Art Gallery I and Art Gallery II are the two packages designed for the job. (Were they written in CP/M as well?) Both of these packages retail around \$51 each.

Buy it, Yes or No?

The Australian designers of PrintMaster Plus for the Amstrad have gone about it in the wrong way. CP/M Plus is a very slow operating system and programs that do as much as PrintMaster Plus does should not be written using it. If the program was developed using machine code (loaded in Basic) it would be possible to make a compatible version for all CPC users, not just 6128's. The operation of the program would evidently speed up and the graphics option could be included. Disc swapping could also be kept to a minimum.

With the present version Disc swapping could be kept to a minimum if you

are the luck owner of twin disc drives. PCW owners may like to copy all the relevant files onto drive M: where there is no need to swap discs, unless you wish to save your masterpieces to a floppy. Apart from the drawbacks already stated, I was not very happy with using the package. I found it a headache just to print out a sign. I lost track of the amount of time I swapped the disc (I'm surprised the program didn't) and became lost in what I was doing. This might be normal however as I have been using PrintMaster Plus on a MicroBee and a IBM PC for a long time.

I must say that the printed results can look quite effective and are of an acceptable standard.

I have seen banners, signs and calendars of equal quality produced by Basic programs. Unless your programming skills are limited, I cannot really recommend PrintMaster Plus.

PrintMaster Plus for the CPC6128 and the PCW retails for about \$59.95. A PC version is also available, for more information on this package contact Dataflow on (02) 331 6153.

"BREAKTHROUGH"

MATRIX is the breakthrough that CPC users have been waiting for. It combines into one program a full featured spreadsheet, database capabilities, simple text editing; but its real advantage is that you can pull information from the spreadsheet, wedge it into a document in the notepad, and then reel off multiple copies to various names and addresses as recorded in the spreadsheet.

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Available from The Amstrad User while stocks last

Boxing Clever

Robin Nicholas takes the lid off the various versions of Cardbox available for Amstrad computers

Cardbox is a pretty well established piece of software. That means a lot of people have bought it so maintaining its popularity. It also means that the software is now well proven, which can only add to the over 20,000 copies already sold.

What is Cardbox?

Regular readers would have noticed in last month's magazine that Cardbox, part of the Caxton range of software, is now being produced in Australia by Reckon. This is certainly good news for us on this side of the globe - both dealers and users alike - as Cardbox, and the others in the range, are now supported locally. Unless you have been living underground for the past few years or are a newcomer to Amstrad computers you would at some time or other have read about the package. If you haven't let me fill you in.

Cardbox is quite simply a computerised card-indexing system. Rather than keeping a box of cards on your desk and manually updating when the need arises, the information is kept on a disc. Naturally, on that media, a host of extra applications open up to the user - mailing labels probably topping the list. You can choose, perhaps, to keep track of club members, customers, suppliers or product details. Cardbox will also output data in ASCII format which should be compatible with most word processors. This will allow you to incorporate names and addresses from the Cardbox file with a standard letter. The maximum number of cards that can be held in a file is 65,500; the maximum characters per record is 1,404; and the maximum fields per record is 26.

Cardbox, the original, and Cardbox Plus are both available for the CPC6128 and PCW range at a cost of \$129.00 and \$199.00 respectively. Cardbox PC and Personal Cardbox Plus (both for IBM compatibles) cost \$179.00 and \$399.00 respectively.

Enhancements to Cardbox Plus

The original Cardbox for the 6128s and PCWs is a neat package in itself, but for an extra \$70 you can choose Cardbox Plus. Any user with Cardbox who wants to go to Cardbox Plus can transfer all their existing files from one to the other. The following is a list of the enhancements now incorporated in Cardbox Plus, and where relevant makes a comparison with Cardbox.

1. The card can be 132 columns wide as opposed to 80.
2. Multi line field display options. This means that if the user designs a separate format in order to list only certain fields, they may view the list on screen before printing. In Cardbox only the first card in the selection can be viewed.
3. Batch editing. Where a similar change to a number of cards is to be made, only the first card in that selection need be edited. Then simply press Ctrl B and the whole selection is quickly updated.
4. The user has a choice of input formats. Editing and adding can be done whilst in a format other than the 'native' format.
5. Fast bulk loading. The process of merging two files or repairing a file was fairly slow. With bulk load it all happens in a matter of seconds.
6. Indexing and retrieval can now be done by:
 - Dates
 - Numbers

- Ranges ie. All those from 18 - 35
7. Manual refinement of selections can be made by tagging certain records whilst scrolling through a selection, then re-selecting those tagged by typing SE = <CR>
 8. Keeping a selection. A user may want to come back to a certain selection later on. They would simply type KE and a name for the selection. To retrieve that selection type SE = and the name.
 9. MOST IMPORTANTLY!!! Users can now sort their output in alphabetic, numeric or date order by any field.
 10. File directory display. This is handy when changing formats, you are given a list of all formats you have created to choose from.
 12. Finally, there is a multi-user version.

For IBM and compatibles

Major enhancements to the original version of Cardbox PC show themselves in Personal Cardbox Plus and they are major! This probably accounts for the difference in price between the two. Again, to enable you to choose between the two, here is a list of the changes:

1. 132 column card with instant scrolling from one side to the other.
2. Multi field display option.
3. Batch editing.
4. A choice of input formats.
5. Indexing and retrieval by:
 - Numbers
 - Dates
 - Phrases
6. Manual refinement of selections by tagging.
7. Keep and combine selections.
8. Filter selections:
 - If a user selected all customers in

NSW for example, and then they just briefly wanted to view those with a 2000 post code, they would use the filter command. This would allow them to scroll through the NSW selection but displaying only those with the 2000 post code.

9. **MOST IMPORTANTLY!!!** Mail-merging facility. Although one can merge any selection from any of the Cardbox family with ASCII word processors, Personal Cardbox Plus PC has it's own word processing facility specially designed to merge with a record selection, quickly and easily. One simply creates a 'Template' or letter using the Template facility. Where fields are to be merged with the letter, no matter how long the information in those fields may be, simply hit the TAB key, then type in the two letter field designate. For example TAB 'CO', for company TAB 'AD', for address and so on. Where some addresses occupy less lines than others, Cardbox Plus will ignore those empty fields when printing, this is so as not to leave gaps in the letter. The result is the most personalised letter with the least hassle I have seen.
10. Sorted output.
11. On-Line sorting.. sort records on screen into any sequence by any field.
12. Multi-Record display.
13. Direct printer control for underlining etc.
14. Headings and page numbering. When printing a series of records in any format, the printouts can be given a heading and the pages num-bered.
15. File directory display.

Main versions of Reckon Software's Cardbox family				
	Cardbox IBM + PCW	Cardbox-Plus		
		PCW	Personal	Standard
Record format (basic 18 rows by 80 cols) 132 columns, with scrolling multi-line field display options extra text (80 lines or 8,000 chars) extended character set (international)	*	*	*	*
Data entry and editing selective indexing batch editing loading from files choice of input formats fast bulk-loading	*	*	*	*
Indexing and Retrieval by words by numbers and dates by phrases selection by ranges selection by record numbers manual refinement of selections keeping and combining selections	*	*	*	*
Display and output alternative formats mailmerge facilities sorted output on-line sorting multi-key sorting multi-record display direct printer control headings and page numbering choice of output formats	*	*	*	*
Utilities database analysis interactive index listing file directory display	*	*	*	*
Other facilities use of command files concurrent two-copy operation multi-user operation networking WITH co-programming		*		*

An example of the power of Personal Cardbox Plus

A large shipping Company in Sydney uses it to keep track of 24 cargo vessels, the containers on those vessels, the items contained in those vessels and to whom those items belong.

They can then write to the owners of these items as and when the ships dock or for any reason they need to. They have long involved standard forms which merge most of the information contained in the record cards and the

whole job takes seconds to set up and a few minutes to print. They had been quoted \$25,000 to have a program written.

There is no better way to keep track of Customers, Suppliers, Members, Patients, Library books or just about any records you care to name. Now with the Template facility there is no easier way to achieve in-depth, personalised mailouts or customised form filling.

The Reckon range should be available through your local dealer. In case of difficulty contact (02) 371 9631.

Using Masterfile 8000

Ron Hawthorne has been using the package for a while and now gives you the benefit of his experience

Campbell Systems' Masterfile 8000, re-written especially for the PCW, is a user friendly, powerful, relational Database, a menu-driven program suitable for the first-timer, but capable of quite complex applications, as you delve deeper into the formats and relational aspects of the program.

Generally Database reviews almost always start with "Work out how many characters you require for each field". The more space you allow for longer names etc., the more memory you chomp into. Not so with Masterfile 8000. The fields and records are completely variable. There is no longer any need to define field lengths, you can use any length per field up to 250 characters, but here is the best part! You only get charged for what you use. For example, with other Databases if you allow 20 characters per field and 5 fields, this equals 100 characters per record, even if you only use 30. Also if you need to add extra characters, it's back to the drawing board.

Now this is great for the application I wanted, cataloguing my book collection. Some books take the full record of 2400 characters, whilst other books only take 30 characters, and this is only one aspect of Masterfile 8000.

Anyway back to the job in hand. Do not use your new Masterfile disc. Make a working copy using Disckit, Pip, Nsweep or Locoscript 2, then put the master away somewhere safe. (Always read the manual as some programs warn you not to use Disckit.) Load CP/M into the PCW (side 2 of your system discs). When the A> prompt appears on the screen, remove the CP/M disc and insert your working copy. Type in MF8000, this brings up the title screen. Press any key and you are into the Main Menu, remove disc and insert side 2.

From this point onwards, all it requires is a single key press in response to the menu's and/or prompts. No more control codes or command sequences to learn.

To get into Load/save and disc functions press Key L. This gives you Menu 2 disc functions. To select Catalogue/directory press Key C. This reveals all the files on the disc. To load, simply highlight the file name as in LocoScript and press L (load) and then D (display).

Files to load

README.MFC

TIPS.MFC

MFMANIX.MFC - Masterfile Manual index

XFILES.MFC - A list of all the example files on the disc with a description of each.

CALC.MFC - A description of field calculations and formulae.

Example Files

Book collection

Classical record collection with 2 secondary files

Sales contact application with 2 secondary files

Invoice application with 1 secondary file

Address labels

Inventory of capital assets

Stamp collection with 1 secondary file

Pop record collection

Price list showing examples of field calculations

Deck of playing cards to practice searching and use of set markers

Search

As all the files are loaded on to the Ramdisc, the file searches are very fast. One of the search modes is "assign to a set", (a total of 7), whereby a completed search can be assigned to a set number ie. if you had an invoice type file and you wanted to know how many Mr. Jones' in Springvale owed over \$200, do a search on Mr. Jones and assign to set 1, then on Springvale and assign to set 2, then finally on >\$200 and assign to set 3. Now if you select by set 123, you get only the records that match all 3 selections, not the total of 1+2+3, which incidentally is a valid operation. If you select by set 1+2+3 you get the total of all sets 1+2+3.

Formats

Different screen designs used to view and print your data.

There is the default format 0, which lists the field names and data one below the other, then 9 user defined formats that you can change at will. For example, a possible usage could be Format 2, a browsing list of one line per record incorporating the main fields. Format 2, full details of a record using the whole of the screen. Format 3, a label printer.

A feature of the list is that if you highlight the record of your choice, LocoScript style, then press 'R' for Rotate format, you get the full details of that particular record in Format 2.

Format Set-up

Reached via 'F' for Format Maintenance on the main menu. Fields, headings and text can be placed anywhere at ran-

dom. You can define 1-28 records per format. You can also draw lines, boxes, panels etc. but these are for looks only. You cannot print them out.

New Files

From the main menu, press 'N' for New File and follow the prompts. You can have up to 84 Field names, or Data names as the manual calls them. Each Data name can be up to 22 characters in length. Decide how many Data names you need, then add a couple of spares. When you keep a spare Data name it only uses 1 byte per record, so it's worth keeping a couple spare as there is no way to increase the number of Data names once the file has been created. If you run out of Data names, you will have to export your Data as ASCII, and import after creating a new file with an increased number of Data names. After naming the Data names you can either move to the Formats 'F' from the main menu, or 'I' for Insert record.

Data Input and/or Amend

Type 'I' for Inserting a new record, and the program will present each field in turn for data.

To add, amend, or erase in any field whilst in Display mode, simply highlight the field LocoScript style, press the key in the centre of the cursor keys, (the one that's got 2 on it), and alter LocoScript style.

If you alter the file and then decide to quit or load another file, the program prompts that the file has been altered and asks if you want to save it - (Y)es or (N)o. If No, it will erase that file from the ramdisc; if yes, it will ask for a file name. If you use the same file name, it will back up the original file first and then re-name the file extension 'MFP' (Masterfile previous), while the new version will be 'MFC' (Masterfile Current).

Printing

The program will print out a single record in the format of your choice, or the whole file. Of course you can select certain records by search and then print out the partial file of your selected records.

Printer Options

Forms Depth	0-99, INF
Interleaf	0n or off. If on, will print out the next format as well. If off, just the format on the screen. (It took me a while to figure this out.)
Left Margin	0-50
Single sheet or continuous	
Lines per inch	6,8,10
Draft or NLQ	
Zero Slash	on or off
Elite	on or off
Condensed	on or off
Emphasised	on or off
Double Strike	on or off
Enlarged	on or off
Language	U.S., French, German, U.K., Danish, Swedish, Italian, Spanish, Japanese,

(Does not seem to make much difference.)

Width 90 only

Relational Files

Put simply, this means the file you have loaded can relate to other files on the Disc, and can actually read data from other files to present in your current file formats. For example, if you have a primary file for invoices, you can have a secondary file for customers, with names, addresses and phone numbers, with a further secondary file for item part numbers with a full description of the part. So that instead of typing in full addresses and item part descriptions in multiple records in your primary file, you only type the first field name in your record, ie. part number or name. The program will then read the data from the secondary files, (also called Read only files) and present it in your current primary file for displaying and printing. This saves on typing, memory space, and complexity of files. With Masterfile, any keyed file can be used as a secondary file, and can read up to 8 such files at any one time.

Calculations

Calculations are possible between all fields, using numeric operators plus column totals.

Manual

The manual is the usual A5 booklet. It is adequate, but a little vague in places. The Readme file is quite substantial.

Limitations

Masterfile 8000 is not without it's faults, of course. Some of the minor irritations are:

Does not print out format embellishments.

Cannot alter the printer options from the display and Print Mode, (alter via Format Maintenance).

Manual vague on Printer options and Search sets. In fact if you explore, you will find a number of things you can do that are not even mentioned in the manual or Readme file. When using the cursor to highlight fields for editing, to move down the list you must use cursor right, not cursor down, as would be expected, unless it is a browsing list of records, in which case you use cursor down.

Cannot copy a format to another file, but there is a way round it, if the file has enough Data names, you can copy the file by loading, erase all records, erase all unwanted formats, then alter the Data names to suit. Do not forget to change the name of the file when saving.

Calculations are slow, especially if they are complex.

In conclusion

A fast, easy, comprehensive, relational Database, which can be set up with prompts and instructions on the screen, so that a typist with no knowledge of computers, can effectively input data. Suitable for business and/or home use, with numerous applications. Well worth the investment, in fact, it's a real bargain.

See next page for samples of Ron's own application.

```

Cat.no      : 047
Title       : Railway Carriage Album
Type key    : mh
Region key  : br
Category key : c
Articles    : Historical Survey
Plans      : ---
Photos.1   : Lner Cafeteria, 4w 5c 1st, 4w 4c Bk 3rd, Quad-art, lav-compo, ECJ
Photos.2   : LNER Non-corr, Quin-art, Twin-art, Sift lav compo, Thompson non-c
Notes      : Also Pullman, BR Mk 1, Mk 2, Mk 3, DMU, APT, XPG4,
    
```

This is my own application, a set-up for a Book collection. I use secondary files as a means of abbreviating repeating data.

Format 0
 Secondary files-
 Type key, (type of book)
 Region key [See instructions
 Category key [printed on screen
 [in Format 0 for
 [abbreviations.

REGION KEY	REGION KEY (Cont.)	CATEGORY KEY
ar = Australian Railways	ne = North Eastern	c = Coaches
br = British Railways	pr = Preserved Railways	g = General
gc = Great Central	r = Railways	h = History
ge = Great Eastern	sr = S.R.	l = Locomotives
gn = Great Northern	wd = W.D.	ng = Narrow Gauge
gns = Great North of Scotland	wo = World Railways	p = Personnel
gw = G.W.R.		p/w = Permanent Way
i = Industrial		r = Routes
lms = L.M.S.R.		s = Stations &/or Buildings
ln = L.N.E.R.		w = Waggon
m = Model Railways		liv = Liveries
n = Nottingham Area		pr = Preservation
nb = North British		
H = help on/off		
Drive:A File:BOOKS Records:00075 Selected:00075 Key:Cat.no Format:0		

In Format 0, it will only show the first 65 characters in the field.
 Note status bar at the bottom. From left to right: the drive in use; the name of the file to use; the total records in the file; the number of records left after a search ie. selected; the indexed field and the format in use.

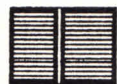
BOOK LIST

Cat.No	Title	Type
047	Railway Carriage Album	Medium Hard Cover
048	Vintage Engines	Medium Hard Cover
049	Pre-Grouping Railway Junction Diagrams	Medium Hard Cover
050	Britain's Railway Liveries	Medium Hard Cover
051	LNER Steam	Medium Hard Cover
052	Tender into Tank	Medium Hard Cover
053	Atlantic Era	Medium Hard Cover
054	British Railways Locomotives & Locomotive Book	Small Hard Cover
055	the Observer's Book of Railway Locomotives of	Small Hard Cover
056	Observers Book of Railway Locomotives of Brit	Small Hard Cover
057	Famous Locomotives of the World	Small Hard Cover
058	Discovering Preserved Railways	Small Paper Back
059	Locomotive Nicknames	Booklet
060	the Mellis & Eye Railway	Booklet
061	Steam Locomotives of the World	Small Hard Cover
062	Iri-ang Railways the first ten years	Medium Paper Back
063	Passenger Services Kasrern Region 1949	Medium Paper Back
064	the Locomotiveman's Pocket Book (LNER)	Small Hard Cover
065	Hiles & Chains, Eastern	Booklet
H = help on/off		
Drive:A File:BOOKS Records:00075 Selected:00075 Key:Cat.no Format:1		

The same file, using Format 1, which produces a browsing list of one record per line, showing only three fields

Note field 'Type key'.
 In Format 0, the abbreviation used (in Cat no. 47) was mh. This was looked up in a secondary file which returned the information Medium Hard Cover.

Full Details of Catalogue No. 047



Railway Carriage Album
 Region. British Railways Category. Coaches

Articles. Historical Survey

Plans. ---

Photos.1 Lner Cafeteria, 4w 5c 1st, 4w 4c Bk 3rd, Quad-art, lav-compo, ECJS 55ft 3rd, Bk 3rd, ME Corr. 3rd, GN Dining Saloon, 5 Coach art restaurant (Leeds), GE 4w & 6w Lav 3rd, Lav comp & Bk 3rd, LNER Non-Corr, GNS Non-Corr, GN Railmotors, & Sentina

Photos.2 LNER Non-corr, Quin-art, Twin-art, Sift lav compo, Thompson non-corr, Gr. Open 3rd, Sift Bk 3rd, 60ft Bk compo, Tourist Stock, Thompo Corr, Coronation, Flying Scotsman & Hook Continental Stock, 3 Car Art Rest., Buffets, Sleeping Cars,

Notes. Also Pullman, BR Mk 1, Mk 2, Mk 3, DMU, APT, XPG4,

The same file again, but this time using Format 2 which produces full details of the book - Cat no. 47.

TIP-OFFS

More cool tips than an ocean full of icebergs..

Titanic problems in LocoScript or some other favourite package?
Sink them with TipOffs, the pages with hidden depths.

DTPers do it sideways

One facility lacking in the Desktop Publisher is the ability to rotate graphics. However, it can be done.

1. Enter 'Edit Graphics' and load in the window containing the image to be rotated.
2. Select 'Cut' from the tools menu and create a file of the part of the graphic to be rotated.
3. Abort the edit and then enter 'Edit Font' selecting any font.
4. Using the 'Paste' option fit your image over an even number of letters.
5. Use the 'Save As' option from the file menu to create what is in effect a new font, then exit from the edit font

mode.

6. Using a previously created window in the 'Edit Graphics' mode load in your new font via the text style menu then select 'Text' from the tools menu.

7. Move the cursor onto the page and set the size and position of the text letter. By pressing the keys for the letters covered by your drawing you will be able to recreate it.

8. By using the 'Text style' menu UP, DOWN, or LEFT options can be used to paste in the drawing upside down or sideways.

C.P. Edwards.

Easy Protex italics

One of the few areas in which Protex is more awkward to use than LocoScript is the printer control codes: to get italic, for example, you have to press [ALT]X-I both to switch it on and off, making it easy to forget somewhere and make your entire document come out in italic.

But there is a neat way round this. Assign to the letter I the phrase

↑24↑I↑246↑↑24↑I↑247↑

by typing at the Protex 'a>' prompt

KEY I ↑24↑I↑246↑↑242↑I↑247↑
(To get the (upwards arrow) symbol, type [EXTRA] and semicolon.)

What this in fact does is to set up the I key so that when you press [EXTRA]+I Protex inserts an italic code, moves one word backwards and inserts another italic code, then moves a word forwards again. In effect, it is putting italic on and off codes either side of the last word you have typed, leaving the cursor in the right place to carry on typing normally. If you put this command in a file called EXFILE on your Protex startup disc then it'll be done automatically for you whenever you start up.

So, after typing a word press [EXTRA]+I and the word will be italicised, and you don't have to worry about turning the codes off. Obviously, the same routine can be used for

bold (substituting B for I in the KEY command) and underlining (U for I) etc. An alternative to assigning the phrases to letter keys, where you need to press [EXTRA] plus a key, is to use the function keys.

In Protex, [f5] automatically returns the contents of phrase assigned to key W, and [f7] of phrase X, so by storing the above codes for italics under W rather than I, and bold under X rather than B, you can italicise or embolden a word by one key press, respectively [f5] or [f7] - even faster than LocoScript!
Ian Goodhart.

Editing RPED

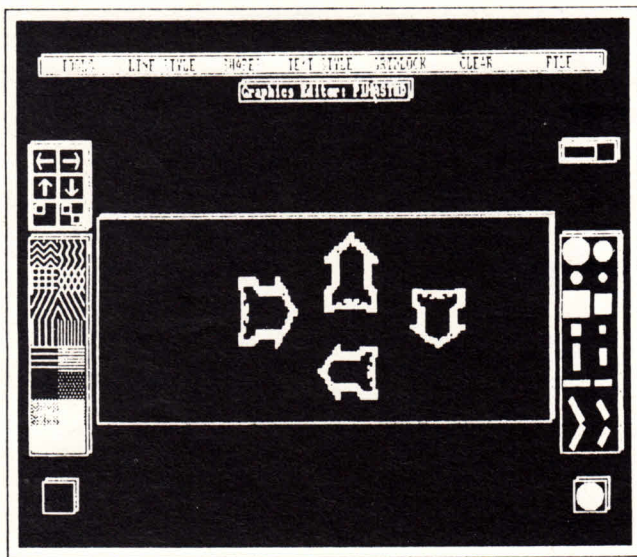
Many people like to redefine their function keys with a SETKEYS file to produce the commands they use regularly at a stroke.

Unfortunately the text editor RPED uses the same function keys, so that if you run SETKEYS you can't then use RPED, as the f-keys are now redefined.

However, RPED can be made to use the 1,2 and 3 keys instead.

First make a listable copy of RPED (by saving an empty Basic file as an ASCII file, loading RPED, then merging with the empty file and saving the result as RPED). Load RPED and use EDIT to change line 13 so that: CHR\$(26) becomes "1" CHR\$(17) becomes "2" CHR\$(19) becomes "3" Then change line 16 so that: "f5" becomes "3" "f3" becomes "2" "f1" becomes "1" Save the new program as "RPED2" - it works exactly the same as RPED but using 1,2 and 3 instead of the function keys.

Richard Hood.



See our LocoScript Pin-up
on Pages 32 and 33 !

InfoWorld

Software Report Card

Cardbox

	Poor	Fair	Good	Excellent
Performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Documentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ease of Use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Error Handling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Why settle for less?

OK — so you've never heard of InfoWorld. That is hardly surprising because it is published in America. It does however happen to be one of the most widely read software magazines in the world.

When Caxton Software in London launched Cardbox, they sent a copy to the editor. Because Americans have software coming out of their ears, it was an honour when he decided to publish a review for them. Even more of an honour when they discovered what he thought of it. Over the past five years you could probably count on your fingers the number of products that have achieved that sort of acclaim.

Cardbox is simply an electronic card-indexing system — a replacement for the cards on your desk.

It is famous for the speed and flexibility with which it can find cards for you. Unlike the cards on your desk, you can have any number of key words on the card, anywhere in the entire file or box. Personal Computer World said "... from my initial tests, the fastest of any product I have evaluated so far..." Whether you have 10 or 10,000 cards, Cardbox will find the card or cards you are looking for instantly, and the command to find the cards could not be more simple. Computing Today proclaimed "This product is totally idiot proof!"

Cardbox is not only fast. You can design the layout of the cards completely to your own requirements, you can even duplicate the present manual system you are already using.

You wouldn't use Cardbox to design an invoicing system or design calculated reports, products like Condor 1 or Condor Jr do that. You would use Cardbox for keeping track of your enquiries, customers, suppliers, product details, membership records, library details... If you were to use Cardbox at home it is ideal for recipes, gardening records, genealogy addresses and phone numbers — or just about any other type of information you need to find quickly and easily.

Cardbox also links with CP/M word processors such as Tasword 8000 and 6128 on the Amstrad CPC 6128, PCW 8256, 8512 and 9512. This means you also have a superior mailing list facility which will create in depth, personalised mail shots.

The really good news from all this is that Cardbox is now published by Reckon Software right here in Australia. This means that if you have any questions on Cardbox, or require support whilst using the product, you have someone who really knows and in fact, uses Cardbox, you can call on.

**Cardbox is available for Amstrad CPC6128, PCW 8256, 8512 and 9512
at \$99.00**

**Cardbox is available for Amstrad PC1512 and 1640
at \$179.00**

from all good Computer stockist, or call us at Reckon and we will tell you where to get your copy.

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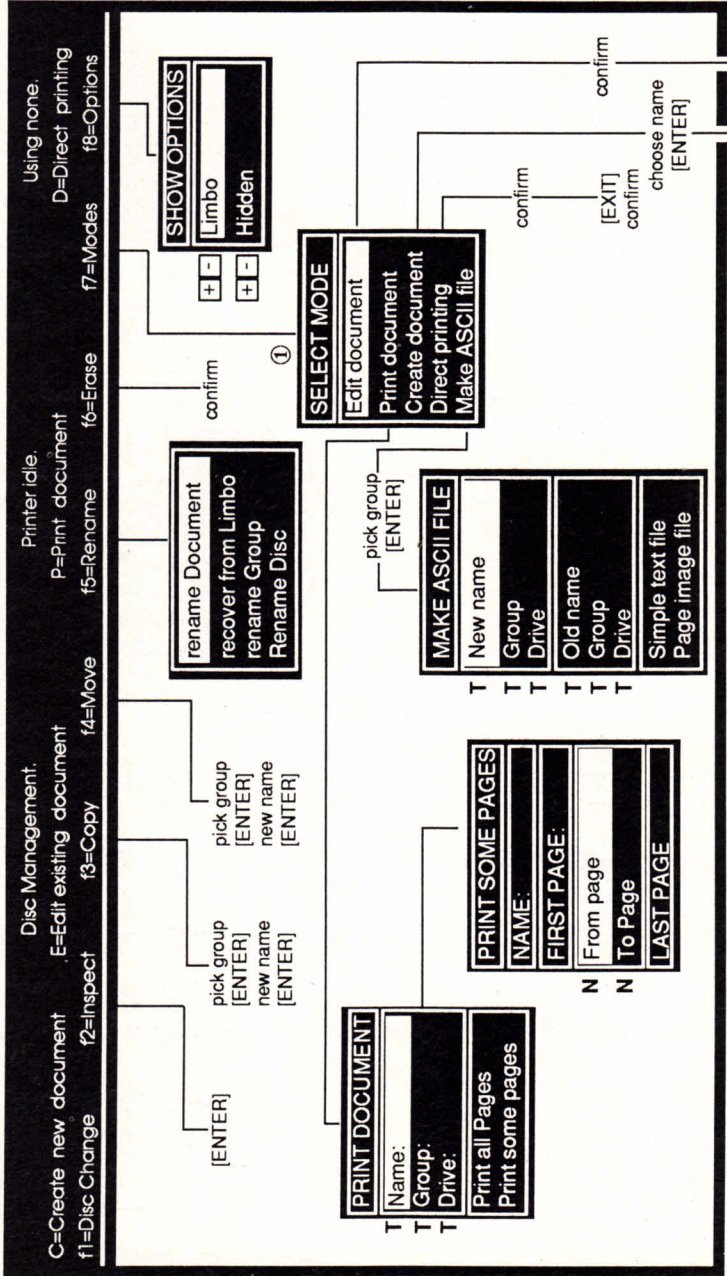
Reckon Software Pty. Ltd.
706 New South Head Road,
Rose Bay, NSW 2029
Telephone: (02) 371 9222
Fax: (02) 371 0098

THE AMSTRAD USER

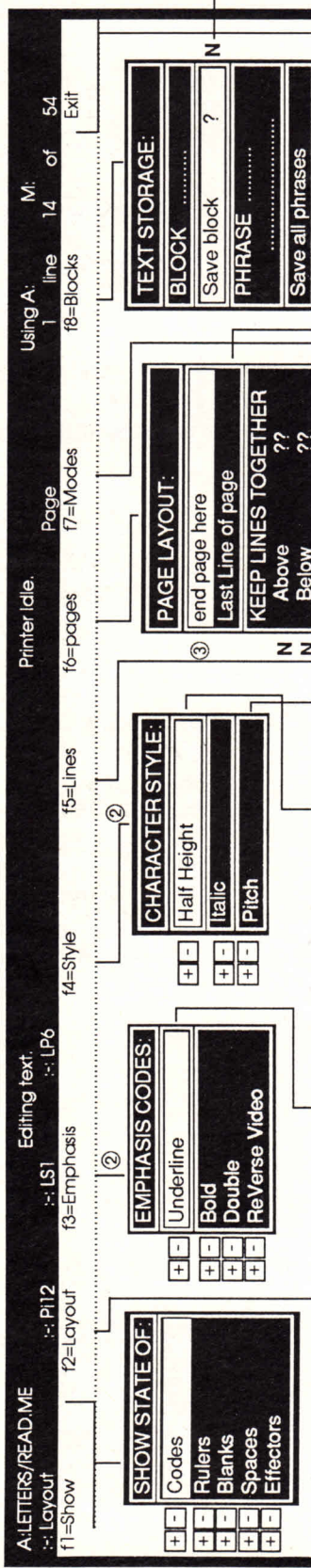
LOCOSCRIP T 1

THE GUIDE AT YOUR SIDE

DISC MANAGEMENT SCREEN



EDITING TEXT SCREEN



How to use this chart

This chart shows all the possible screens and menus that you can see in Locoscript, how to get each one and where it goes afterwards. To make it easier to read, we've used certain conventions:

- Where there's no other legend, the normal way of using a menu is to place the highlight bar over the item you want using the up and down cursor keys, and then press [ENTER] which both actions the choice and clears the menu off.
- Menu choices in capitals are headings and cannot be selected the highlight bar will just skip over them.
- If the menu bar has [H] by it, then you must press [H] to set or [] to clear the choice before pressing [ENTER] to complete.
- If the menu choice has N or T by it, then you must type a Number [ENTER] again to complete.
- Some of the simple menus that merely ask you to confirm an action have been left off - the chart says "confirm" at these points. Press [ENTER] to proceed or [CAN] to stop.
- Where further explanation is needed, we've used a footnote.

SET MENU



CLEAR MENU

- Bold
- Double
- Italic
- Keep
- Layout
- Line Pitch
- Line Spacing ??
- Pitch
- ReVerse
- SubScript
- SuperScript
- Underline
- () soft space
- () soft hyphen

EDIT OPTIONS:

- Finish editing
- Save and Continue
- Save and Print
- Abandon edit

EDITOR SUB MODES:

- Edit Header
- Edit identity text
- Insert text
- Disc management

DISC MANAGEMENT SCREEN
pick document confirm

INSERT PAGE NUMBER

this page number
last page number

LINE LAYOUT:

- Centre line
- Right Justify line
- insert soft space
- insert hard space
- insert soft hyphen
- insert hard hyphen
- Line spacing ??
- Line pitch ?

DOCUMENT LAYOUT:

- Full underline
- Word Underline
- SuperScript
- SubScript
- 10 pitch
- 12 pitch
- 15 pitch
- 17 pitch
- Prop. spacing
- normal width

EDITING LAYOUT SCREEN

A:LETTERS READ.ME Editing layout Printer Idle Using A: M:
Pitch 12 Line Pitch 6 Line Space 1 Justify
f1=Left Margin f2=Right Margin f3=tab f4=Right tab f5=Centre tab f6=Decimal tab EXIT

- Use left and right cursor keys to highlight a format option
- Use the **+** **-** keys to alter the option
- Cursor down key moves you to the ruler menu
- Use left and right cursor keys to move to the desired column
- Use the relevant f-key to set a ruler mark at the column

EDITING PAGINATION SCREEN

A:LETTERS READ.ME Editing Pagination. Printer Idle Using A: M:
Layout :: P12 :: LSI :: LP6 Page
f1=Show f3=Emphasis f4=Style f5=Lines f6=Pages f7=Options f8=Blocks EXIT

- end of header 1 :used for all pages
- end of footer 1 :used for all pages
- end of header 2 :used for no pages at all
- end of footer 2 :used for no pages at all

f1, f2, f3, f4, f5, f6, f8 all function as in the editing menu

PRINTER CONTROL SCREEN

Disc management Printer Idle Using none
Printer: Online Top of form Idle High quality Single sheet
f1=Options f2=Paper f3=Actions f5=Document/Reprint f7=Reset f8=On/Off Line EXIT

OPTIONS

- High quality
- Draft quality
- Single sheet paper
- Continuous stationery
- Form length.
- Gap length.
- Paper out detect

NAME FROM PAGE THIS PAGE TO PAGE REPRINT This page Previous page From beginning

ABANDON PRINTING AND RESET
Cancel

EDITING LAYOUT SCREEN

A:LETTERS READ.ME Editing layout Printer Idle Using A: M:
Pitch 12 Line Pitch 6 Line Space 1 Justify
f1=Left Margin f2=Right Margin f3=tab f4=Right tab f5=Centre tab f6=Decimal tab EXIT

Use left and right cursor keys to highlight a format option
Use the **+** **-** keys to alter the option
Cursor down key moves you to the ruler menu
Use left and right cursor keys to move to the desired column
Use the relevant f-key to set a ruler mark at the column

EDITING PAGINATION SCREEN

A:LETTERS READ.ME Editing Pagination. Printer Idle Using A: M:
Layout :: P12 :: LSI :: LP6 Page
f1=Show f3=Emphasis f4=Style f5=Lines f6=Pages f7=Options f8=Blocks EXIT

- end of header 1 :used for all pages
- end of footer 1 :used for all pages
- end of header 2 :used for no pages at all
- end of footer 2 :used for no pages at all

f1, f2, f3, f4, f5, f6, f8 all function as in the editing menu

EDITING HEADER SCREEN

A:LETTERS HEAD.ME E-diting header. Printer Idle Using A: M:
f1=Layout f3=Characters f5=Tab count f6=Break f7=Page size f8=Pagination EXIT

MAXIMA:
5 Layouts
10 Tabs each

PAGE SIZE:
Page length
Header zone position
Footer zone position

PAGE BREAKS:
WIDOWS & ORPHANS
Prevented
BROKEN PARAGRAPHS
Prevented
Allowed

CHARACTERS:
Zero is 0
Zero is O
Decimal is
Decimal is

PAGINATION:
First page number
All pages same
First page differs
Last page differs
Odd / even pages differ
FIRST PAGE
Header enabled
Footer enabled
LAST PAGE
Header enabled
Footer enabled

DOCUMENT LAYOUT:

- brand New layout ??
- Layout
- Base layout
- EDIT LAYOUT
- Current layout ??
- Layout ??

INSERT PAGE NUMBER

this page number
last page number

LINE LAYOUT:

- Centre line
- Right Justify line
- insert soft space
- insert hard space
- insert soft hyphen
- insert hard hyphen
- Line spacing ??
- Line pitch ?

EDITING LAYOUT SCREEN

A:LETTERS READ.ME Editing layout Printer Idle Using A: M:
Pitch 12 Line Pitch 6 Line Space 1 Justify
f1=Left Margin f2=Right Margin f3=tab f4=Right tab f5=Centre tab f6=Decimal tab EXIT

- Use left and right cursor keys to highlight a format option
- Use the **+** **-** keys to alter the option
- Cursor down key moves you to the ruler menu
- Use left and right cursor keys to move to the desired column
- Use the relevant f-key to set a ruler mark at the column

EDITING PAGINATION SCREEN

A:LETTERS READ.ME Editing Pagination. Printer Idle Using A: M:
Layout :: P12 :: LSI :: LP6 Page
f1=Show f3=Emphasis f4=Style f5=Lines f6=Pages f7=Options f8=Blocks EXIT

- end of header 1 :used for all pages
- end of footer 1 :used for all pages
- end of header 2 :used for no pages at all
- end of footer 2 :used for no pages at all

f1, f2, f3, f4, f5, f6, f8 all function as in the editing menu

FOOTNOTES

- The choice in this menu can be directly accessed from the Disc Management screen by their initials E, P, C, D as appropriate.
- This choice, or all choices in this menu can also be accessed with the SET and CLEAR menus - see the Locoscript manual pp 121 - 123.
- This choice can be directly typed with the key combination [ALT]+[RETURN].
- The UNIT choice can only be accessed by the set menu.
- The REPRINT choice can be highlighted but not selected - you must use one of the choices below it on the menu.

Saving grace

When typing in BASIC listings, or developing a program, many runs and reruns are often necessary before all the typing and programming errors are fixed - and if you forget to save the corrected versions, it can be infuriating to have to type out the corrections again. A time-saving trick is to make the program automatically save itself so you don't have to remember to do it.

Suppose the program you are working on is called SAM.BAS, then make its first line read:
 1 SAVE "SAM.BAS
 or whatever the name of the program is. As you develop the program (or gradually weed out the bugs), every time the program is run, the latest version will be saved. You can edit out the line from the final version.
J.D. Briggs.

Bigger LocoScript headlines

If you think that LocoScript's maximum letter thickness of double 10-pitch bold isn't eye-catching enough for your LocoScript newsletter headlines, you can go much further.

The trick is to use zero line spacing to overprint the same bold headline two or more times on top of itself. By putting a space of different pitch in front of each line, each line is slightly displaced from each other, resulting in a very thick bold effect.

For example,
 (+Pitch15) (+LSO)
 (+Bold) (+Pitch10D) THE
 TITLE [RETURN]

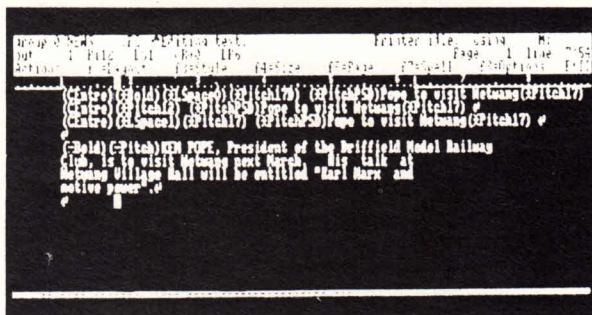
(+Pitch17) (+Pitch10D) THE
 TITLE (-Bold) (-Pitch)
 (-LS)
 will print out the exciting headline 'THE TITLE' in 10 pitch double width 'superbold' type.

If you want a superbold headline centred properly when using LocoScript's Centre command, you should put a matching extra space of 17-pitch at the end of each line.

By displacing two non-bold headlines far apart you can get some other interesting effects too, like a stencilled or outline effect.
Rose Bilany.

Pope to visit Wetwang

KEN POPE, President of the Drifffield Model Railway Club, is to visit Wetwang next March. His talk at Wetwang Village Hall will be entitled "Karl Marx and motive power".



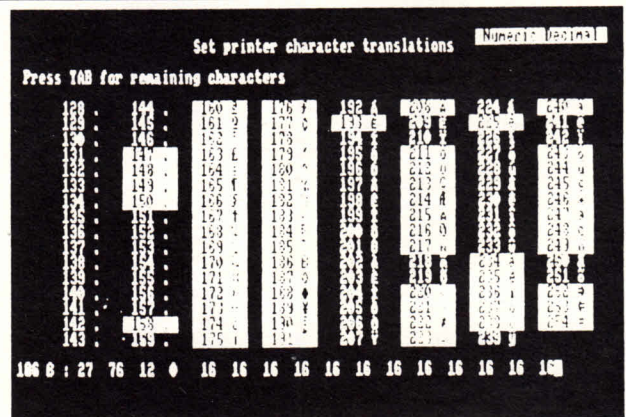
Dashing characters

To show that anything LocoScript can do, Protex can do too, here's the equivalent to the making a long dash (not a hyphen) in LocoScript 1, which was done by storing (+Pitch10D)-(-Pitch) as a phrase. The trick is to redefine one of the space ASCII codes (say 186) to produce a single-width dash. You can then define a phrase (say [EXTRA]+D) to be two of these one after the other.

over 186, press [ENTER], and type:
 27 76 12 0 16 16 16 16 16 16 16
 16 16 16 16 16 (yes, 12 16s!)
 Then press [STOP] twice to get back to the main menu and select option 7 to save the changes in your printer driver. Press [RETURN] to save it as PCW.PTR, as the screen prompt suggests. To return to PROTEXT choose option 0 from the menu. Make sure that your modified PCW.PTR file is saved on

This is a hyphen - and this is a double hyphen -- but the dash looks more effective — as you can see

This is a hyphen - and this is a double hyphen -- but the dash looks more effective — as you can see



First include the following two commands in your EXFILE file (so that they are always executed whenever Protex starts):
 KEY D ↑186↑186↑
 SYMBOL 186 0 0 0 255 0 0 0 0
 The SYMBOL command redefines the screen appearance of the character produced for the ASCII code 186. However, you also have to alter the printer version of character 186, which you do with the SETPRINT utility: At Protex's a> prompt, type SETPRINT, select option 4 for 'Set character translations', press [TAB], move the cursor

your startup disc as well as the M drive, or you could lose your changes when you turn off. Sounds complicated, but the result is simple - just press [EXTRA]+D and your long dash appears. Use exactly the same KEY and SYMBOL commands, but when you come to the SETPRINT part set up character 186 to be:
 27 68 95 27 85
 which does a half-line space up, an underscore character, then a half-line space down again.
P.J. Hendricks.

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Carry on PCW

John Driver explains how to take your PCW caravanning with you

Most electronics systems usually run from low voltage d.c. (direct current) supplies for the simple reason that nearly all their component parts (the silicon chips etc.) expect it. In the case of portable radios, tape recorders, calculators etc. This happens to be very convenient since a small battery can be used to provide the d.c. - all batteries are sources of d.c.

However, once you start moving up to bigger pieces of equipment, for example where TV-style screens are involved, the power consumption rises rapidly and in most circumstances it is no longer practicable to use a battery as the main power source. Should you require to use your computer away from mains, say in your caravan or in your yacht, then you have problems.

Inverting the problem

One of the easiest and most widely used solutions to this problem is to use an inverter. This is a device which works in the opposite way to the transformer described above: it takes a d.c. voltage from a battery and puts out 240 volt mains a.c. to a conventional 3-pin socket, into which you can plug your PCW.

As usual there are pitfalls in adopting such an arrangement. For computers, potentially the most serious problem is that whilst our mains at home provides us with a relatively smooth a.c. supply (in engineering terms: a good sine wave), many inverters have a poor output, often quite large 'spikes' are generated and most computers will not like these at all. So you have to take care in choosing a suitable inverter; one advertised as 'sine wave output' will most likely be acceptable, a 'square wave output' one may not be. It is best to get an assurance from the supplier that his inverter will satisfactorily run your PCW; treat with caution any claim that the inverter is 'OK on most things', since computers vary in their ability to deal with unwanted spikes.

Power struggle

The next consideration is that of power consumption. Not only must you be sure that the inverter will happily run your equipment when everything is on (if you have a separately powered printer or disc drive they will eat up extra power) but it must also be able to cope with the initial switch-on 'surge'. In the case of the PCW 8256/8512, for the few fractions of a second immediately after switching on, the power required amounts to many hundreds of watts, but this settles to comfortably less than 100 watts in normal use.

Of course, which battery you choose to supply the d.c. is a vital consideration in coping with this power surge. A couple

of PP3s connected together probably wouldn't be up to much. All car batteries should cope since they are designed to withstand a starter motor's surge.

The cables between the battery and the inverter must be capable of efficiently conducting the electrical current to the inverter and here we meet the problem that the 'low tension' current is greater due to the difference in volts (if you remember back to your school days physics, for a given amount of power about 20 times more current will be required at 12 volts d.c. than for the 240 volt mains). Also, the inverter will use some current in driving itself - in fact it will sit (fairly) quietly consuming perhaps 10 watts even when the computer is switched off!

Provided you buy a suitable inverter, it is quite practical to run a PCW from a car battery.

Don't interrupt

Inverters can be used to run mains driven equipment where mains is not available. A somewhat more sophisticated system incorporating an inverter can be used to protect the computer operator from mains interruptions or, at the very least, allow time for all data to be transferred to disc and the computer shut down. Such a device is called an uninterruptible power supply - UPS for short, and costs a little more than a simple inverter.

The UPS is normally connected to the mains with its own 13 amp plug. The mains feeds a battery charger which is connected to an inverter which once again generates an a.c. mains supply and feeds the computer. The system is arranged such that if there is a power cut the internal batteries take over and protect your valuable data on the PCW, making sure that there are no nasty power spikes as the changeover occurs.

The internal batteries will maintain the 240 volt a.c. output for about 10 minutes, typically. Usually external batteries can also be added to allow perhaps several hours of operation without mains. All in all this represents the ultimate in protection from unreliable mains power supplies but, as with computers, it is only in recent times that advances in technology have allowed such equipment to reduce in price (and size) and thus become more attractive to the home and small office user.

Battery facts

Car batteries are rated in 'ampere hours'. A 40 ampere hour battery is supposed to be able to deliver a current of 40 amperes for an hour without needing recharging. (In situ in a car, batteries are constantly being recharged so should never go flat.) A car battery, fully charged and in good condition, can usually be relied upon to give a respectable voltage output for at least half of its rated capacity when used to power the PCW through an inverter. Therefore a 40 ampere hour battery can be considered as a reliable 20 ampere hour source. At 12 volts, 20 ampere hours gives you 240 watts for an hour (watts=amps x volts). A PCW consuming - typically - 70 watts (including the internal requirements of the inverter) will thus go for over 3 hours of continuous use; rather more in computing bursts of, say, half an hour. Don't forget that the inverter itself will take up power even if it isn't driving anything, so don't forget to disconnect it from the battery when you turn the PCW off.

Professional Computer Accounting Systems Pty Ltd

Our company can supply you with a complete computer accounting system that is easy to use.

- It enters and lists all expenses, receipts and concessional fees.
- It produces invoices on blank paper listing all relevant details.
- It can produce duplicate invoices if the original is lost.
- It uses pre-programmed item number facilities.
- It prints monthly statements of outstanding debtors by category (eg. Private, Worker's Comp., 3rd Party).
- It allows you to write standard letters to your patients.
- It tells you how long patients have owed you money.
- It does trial balances and profit and loss statements, when you want them.
- It calculates the total of your outstanding debts.
- It will finalise your tax return in minutes.
- It will recall patients.
- It will send standard letters of demand to bad debtors.
- It has many more features as well.

The package also includes a powerful word processing programme. **The cost is about \$2950 and that includes all hardware and software.** Software (only) - price on application.

For more details contact:

Robyn Gerke
51 Stephen Terrace
St. Peters, South Australia 5069
Telephone: (08) 363 2050

Liz Ampt, Ampel
338 Spinks Road
Glossodia, New South Wales 2756
Telephone: (008) 044951 [NSW only] or (045) 765573

IMPORTANT ANNOUNCEMENT FOR LOCOSCRIPT 2 USERS

We are pleased to advise that following negotiations with Locomotive Software in England, we have been given permission to provide upgrades of LocoMail or LocoSpell for LocoScript 2 users who have LocoScript 1 compatible copies.

In addition we can also provide updates to LocoScript 2. The current version being offered is 2.16. Please note that this particular update service is for existing LocoScript 2 owners only. If you have LocoScript 1 and want to upgrade to Loco 2, you will need to purchase the new software package (current price \$72.95).

To obtain your upgrade or update to each piece of software you must do the following:

1. Locate your **original** disc - not a back-up.
2. Place in a padded post bag, enclosing a cheque or money order for \$18.50 for each disc being returned

(or quote your Bankcard, Mastercard or Visa credit card number and expiry date).

3. Include a note of your name and address to which the upgrade or update is to be sent and the item or items you are returning for upgrade or update.

4. Seal the packet, write your name and address on the reverse side and send by CERTIFIED MAIL to:

**Locomotive Upgrades
The Amstrad User
1/245 Springvale Road
Glen Waverley
Vic 3150**

PLEASE NOTE: Returning your **original** disc provides proof of purchase. Under no circumstances will we provide upgrades or updates on copies or your own blank discs. Your original disc(s) will be returned to Locomotive Software in Surrey, England along with your name and address for registration purposes. The cost of upgrading either LocoSpell or LocoMail is \$18.50 each. The cost for updating LocoScript 2 is also \$18.50.

The Personal Touch

Novelties and no-nonsense nuggets in this month's BASIC listings

Bank Statement

by Brian F. Wright

Here is a practical way to use your PCW to keep track of the money in your bank accounts. It allows you to enter all the cheques or debits and any deposits (why is it there are always more debits?) and keeps track of the current balance in a file on your disc.

When you run the program, the first thing you are asked for is the number of the account you want to look at - this means the short number 1,2 or 3 printed by the account at the top right of the screen (not the 7 digit number in your cheque book!) followed, as always, by [RETURN].

Next the current balance and most recent entry date is shown for that account, and you are asked whether to go on or not - type Y to make additions, or N to look at another account or exit.

Follow the prompts by first typing in the date. Next you are asked for all debits (or cheques cashed). Type in the amount of the debit, and the program will carry on in a loop asking until you are all done. The program keeps track of the total with depressing accuracy. To indicate that you've finished entering debits, just press [RETURN] without typing anything.

After this you are asked if you have managed to scrape together any deposits to cover all these cheques. In the unlikely event that there are none just press [RETURN] to go on. You are only allowed one deposit per day, but if you're clever you could alter the program to have the same continuous entry system as for debits by using the method in lines 110 and 120.

You can decide on the names of the accounts you want to keep track of by adjusting the text in line 20. Remember to enter the name in quotes - "Swiss" or "Cayman Islands" and the number. The program will print these on the screen as a memory jogger for you.

At the end, the program prints out a statement of affairs with your ingoings and outgoings and the new balance, and you can move on to gloat over the vast amount of money you have tucked away in your deposit account.

The final balances are written out to a file for use next time you run the program - the individual debits and credits aren't recorded, but at least this way it isn't too much of a bind to keep an accurate check on your bank balances.

```

1 ' Bank Statement
2 ' by Brian F. Wright
3 ' The Amstrad User May 88
10 PRINT CHR$(27)+"E"+CHR$(27)+"H"
20 PRINT TAB(60)"CURRENT-1":PRINT TAB(60)
)"DEPOSIT-2":PRINT TAB(60)"B/SOC-3"
30 OPEN "R",1,"FINANCE",14: FIELD 1,4 AS
  BAL$,10 AS D$
40 INPUT "ACCOUNT NUMBER ";BAL%: GET 1,B
  AL%:
50 a=CVS(BAL%):CLOSE
60 IF CVS(BAL%)<0 THEN GOSUB 200
70 PRINT:PRINT "Last Date ";D$
80 PRINT "STARTING BALANCE " USING "$###
#.###";a
90 INPUT "Do you want to continue ";ANS$
: IF UPPER$(LEFT$(ANS$,1))<>"Y" THEN 180
100 INPUT "DATE ";date$
110 INPUT "CHEQUE/DEBIT VALUE";b: IF b=0
  GOTO 130
120 b=b+c:c=b:GOTO 110
130 INPUT "DEPOSIT ";d
140 f=a-c+d
150 PRINT USING "Start Bal $ #####.## ou
t $ #####.## dep $ #####.## bal $ #####.##
";a,c,d,f
160 OPEN "R",1,"FINANCE",14: FIELD 1,4
  AS BAL$,10 AS D$
170 LSET BAL%=MKS$(f):LSET D%=date$:PUT
  1,BAL%:CLOSE:CLEAR
180 INPUT "Do you want another";ANS$:IF
  UPPER$(LEFT$(ANS$,1))="Y" GOTO 20
190 END
200 PRINT "YOU ARE OVERDRAWN BY",TAB(60)
  USING " $ #####.###" ;a:RETURN

```

Getting stuck?

Details on how to type in a listing are published from time to time as space permits. You may wish to refer back to either Issue 36 (Page 43) or Issue 37 (Page 37) for guidance.

Handwritten Type by Kelvin Stott

Now this is really personalising your PCW. Have you ever felt annoyed by the style of the screen lettering, or frustrated that you can't define your own special display characters? This listing takes all the lower case letters on your PCW screen and turns them into beautifully flowing joined-up writing.

Although only 15 lines, the listing is packed with a fair amount of detail. It would be wise to check the program carefully before running as even a small mistake on the data lines from 70 to 150 could have some drastic effects on your character set. And do save the program before running it, since a mistake in lines 20-30 could make your PCW lock up. (If this happens, all you can do is turn off and restart.)

As soon as you run the program you will see the results - BASIC's messages will come up on the screen in handwriting. You will need to run this program every time you start your PCW up, since the character set changes are not permanent and are forgotten when you turn off (and, it follows, turning off and on again is the simplest way to revert to normal characters). The new characters cannot be used for LocoScript.

Unfortunately, this beautiful script does not come out on the printer but it does give a whole new look to the green screen. If you're really desperate to get a hard copy 8256/8512 users can of course get a screen dump pressing [EXTRA] and [PTR]. You will be amazed at what a little listing will do.

The upper case characters are unchanged, so when you are writing a program for yourself you can mix ordinary upper case words with pseudo-handwritten lower case comments for effect.

Now this is really personalising your PCW. Have you ever felt annoyed by the style of the screen lettering, or frustrated that you can't define your own special display characters? This listing takes all the lower case letters on your PCW screen and turns them into a beautifully flowing joined-up writing.

How it all works

With a little ingenuity, you can easily adapt this program to create any characters you like on your screen. If you are writing your own games programs you might set up the 'z' character to be a Space Invader, for example.

The essence of the program is in lines 70 to 150 - these contain the magic numbers which define what pattern of dots the PCW displays on its screen when you tell it to print a particular character from 'a' to 'z'.

Each letter on the screen is made up on a grid of 8 by 8 dots - you can see them if you look really closely. The pattern of 64 dots for each letter is stored in the PCW's memory.

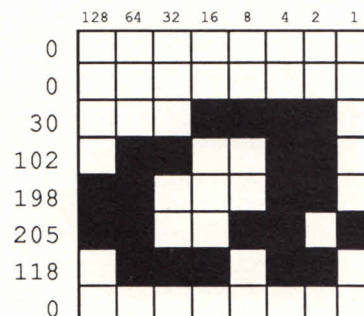
The numbers in the DATA statements from lines 70 to 150

are in fact 26 sets of 8 numbers, each set of 8 numbers defining the dot pattern for 'a' to 'z' respectively. The first eight (0,0,30,102,198,205,118,0) make up the handwritten letter 'a' for example.

To understand how the figures are arrived at you have to refer to the little diagram at the bottom left. Each number in the set of 8 which defines a letter's shape corresponds to a row of 8 dots. The first number is the top row, the last the bottom row. Each column is given a number (1,2,4,8,16,32,64 or 128) as labelled.

Once you have drawn your character on the 8x8 grid, you work out what the code number for each row is by adding up all the column codes in that row. So if you want to put one dot in the top right hand corner you would put in a 1 for the first row code. For a dot in the top right hand corner (1) and one in the top left hand corner (128) you would use 129. To fill every dot in a row you add all the values together and get 255.

With this knowledge and a bit of experimentation you could modify the program to adapt the character set to suit yourself. In line 40 you see that the DATA values in lines 70 to 150 are being used to redefine the screen versions of ASCII characters 97 to 122 (ie. 'a' to 'z'). By changing this to 71 to 96 you could adapt your own character set for all the capital letters. Or you could leave the text as it is and redefine some lesser used graphics keys such as $1/2$, { and } to be your Space Invaders.



▲ The dot layout for the 'handwritten' version of the character 'a'

1 ' Handwritten Type

2 ' by Kelvin Stott

3 ' The Amstrad User May 88

10 MEMORY &HBFFE:FOR hex=&HC070 TO &HC09

8:READ pk:POKE hex,pk:NEXT hex

20 DATA 243,62,129,211,241,62,130,211,24

2,175,95,103,22,184,58,153,192,111,41,41

30 DATA 41,25,17,154,192,235,1,8,0,237,1

76,62,133,211,241,62,134,211,242,251,201

40 FOR char=97 TO 122:POKE &HC099,char

50 FOR row=1 TO 8:READ binary(row):POKE

&HC099+row,(binary(row)):NEXT row

60 c1=&HC070:CALL c1:NEXT char

70 DATA 0,0,30,102,198,205,118,0,48,48,9

```

6, 108, 198, 199, 60, 0, 0, 0, 60, 102, 192, 193, 12
6, 0
80 DATA 6, 6, 12, 124, 204, 205, 118, 0, 0, 0, 124
, 216, 240, 193, 126, 0, 15, 24, 24, 24, 252, 159, 4
8, 224
90 DATA 0, 0, 124, 204, 204, 127, 56, 224, 48, 48
, 96, 124, 204, 205, 198, 0, 12, 0, 12, 24, 56, 217,
14, 0
100 DATA 12, 0, 12, 28, 120, 153, 62, 240, 48, 48
, 96, 124, 228, 217, 206, 0, 12, 28, 24, 48, 112, 15
3, 14, 0
110 DATA 0, 0, 119, 127, 214, 199, 198, 0, 0, 0, 1
24, 102, 204, 205, 198, 0, 0, 0, 60, 110, 102, 231,
60, 0
120 DATA 0, 0, 60, 102, 102, 239, 96, 192, 0, 0, 1
24, 204, 216, 247, 60, 112, 0, 0, 126, 102, 198, 19
5, 192, 0
130 DATA 0, 0, 124, 102, 198, 143, 56, 0, 48, 48,
96, 124, 192, 193, 126, 0, 0, 0, 102, 102, 204, 205
, 118, 0
140 DATA 0, 0, 102, 102, 110, 251, 48, 0, 0, 0, 99
, 99, 214, 255, 108, 0, 0, 0, 119, 156, 24, 153, 110
, 0
150 DATA 0, 0, 102, 102, 204, 127, 56, 224, 0, 0,
60, 102, 204, 135, 60, 112

```

BASIC Find/Exchange by Richard Cox

Being able to do simple text editing operations on a BASIC program can often be invaluable. The normal BASIC system only allows you to make changes on one line at a time, which is hardly very hi-tech.

You can of course use a word processor to edit programs, but this can be inconvenient: here is a way to do it all without ever leaving BASIC by having your own Find/Exchange program.

This can come in useful in a number of ways. For instance, if you are testing a program which has lots of LPRINT statements you can end up wasting a lot of paper and time. The best thing to do is change all the LPRINTs to PRINTs while testing, and change them back when the whole thing works.

This listing is custom built for just such an occasion. First, save the program you want to edit in ASCII form with the command SAVE "filename",A. Now, supposing you have saved this Find and Exchange listing as FINDEX.BAS, type RUN "FINDEX". The program asks you for the name of the program you just saved, so type whatever you chose for FILENAME earlier.

You are now being asked for the string of characters to be changed (say PRINT) and the string that you want to change it to (LPRINT). Each line of your program is printed out on screen and each time PRINT is mentioned it is highlighted

with an impressive device made of up-arrows. (When you need to write an up-arrow in line 190 as you type the listing in use [EXTRA] and U.) You then have the choice of changing that occurrence or not.

Once all the changes have been made the modified program is automatically reloaded for you, so typing RUN will run it. You still have to save the altered program in the normal way or the edits will be lost when you leave BASIC.

There are a thousand and one other possible uses of this program. For instance, if you want to find every line that a variable TOTAL\$ is mentioned in your program you can exchange TOTAL\$ for TOTAL\$ (ie. leave it unchanged!) and the exchanging program will pause at every occurrence. Your eye might not notice that you type TOTALS where you meant TOTAL\$ but the machine won't be fooled.

```

1 ' Basic Find/Exchange
2 ' by Richard Cox
3 ' The Amstrad User May 88
10 ES=CHR$(27): HS=ES+"H": lf$=CHR$(10):
   cbt$=ES+"J": cls$=ES+"E"
20 rv$=ES+"p": nv$=ES+"q": up$=ES+"I": D
EFINT a-z: WIDTH 255
30 PRINT cls$;h$
40 INPUT "Enter program name: ",prog$: P
RINT
50 IF UPPER$(RIGHT$(prog$,3))<>"BAS" THE
N prog$=prog$+".bas"
60 OPEN "I",1,prog$: OPEN "o",2,"M:temp.
$$$"
70 LINE INPUT "          old string: ",o$
80 LINE INPUT "          new string: ",n$
90 PRINT
100 WHILE NOT EOF(1)
110   LINE INPUT #1,ln$
120   PRINT ln$
130   p=INSTR(ln$,o$): WHILE p<>0: GOS
UB 180: WEND
140   PRINT #2,ln$
150 WEND
160 CLOSE 1,2
170 LOAD "M:temp. $$$"
180 PRINT up$;up$
190 PRINT LEFT$(ln$,p-1);lf$;STRING$(LEN
(o$),"4"): PRINT "Exchange? Y/N: ";
200 IF UPPER$(INPUT$(1))="Y" THEN ln$=LE
FT$(ln$,p-1)+n$+MID$(ln$,p+LEN(o$)):p=p+
LEN(n$)
210 PRINT up$;up$;up$;CHR$(13): PRINT ln
$;cbt$
220 p=INSTR(p+1,ln$,o$)
230 RETURN

```

Service Accounts Program

A PCW8512 specific Accounting package for Professional people

The Service Accounts Program (we shall call it SAP for short) was developed in South Australia by Professional Computer Accounting Systems Pty Ltd (PCAS) specifically for a small business, and in particular general medical practitioners and specialists including physiotherapists and dentists. It claims to be an accounts package that does everything for a busy receptionist. The list is long - patient recalls, costing, adding and subtracting, patient billing, monthly accounts, expenses and outgoings, receipted income, item numbers and calculating profit and losses. We had the opportunity to 'dissect' the package and take a look inside.

Overview

When reviewing an accounts package, it is sometimes difficult to determine how much detail to provide. Should one assume that the reader has very little knowledge of accounting or has he/she a working knowledge. The same question applies to the computer on which the package is to be run. I have plumped for the reader who has a working knowledge of each, otherwise the review will get lost in explanations of principles which can be learnt elsewhere.

SAP is either sold on its own or as a complete package with a PCW8512, the latter of course, giving the added advantage of Word Processing. The package price also includes a twelve month warranty on the 8512 plus a three year service contract for the software. What a sensible idea - it's a pity more software producers don't take this approach. Effectively, it means that updates are provided free of charge during that period. With such a large package, and the possibility of it being used by a first-timer to computers, PCAS advise 6 hours tuition to start with and then "on-site" help from one of their staff for a couple of days. Naturally, based in SA, on-site help would prove difficult for PCAS but certainly profitable for domestic airlines! So PCAS has established a NSW agent and, at the time of writing, are shortly to have Queensland and Victoria covered too.

For users who are reasonably familiar with computers, the personal assistance is probably not required - I had little trouble in getting started. However, this did not stop me from watching a tutorial video (two actually), which can be supplied with the package as an optional extra.

SAP can service between one and four trading personnel. The authors of the package expect that a practitioner working 4.5 days per week with a patient base of 2500 can store a full financial year's data on one disc. The number of discs required increases with the number of practitioners. Whilst

the system allows for up to 4 practitioners to use one data disc, in the cases where the practitioners have their own patients and keep their own receipts, they are advised to maintain their own data disc. This is particularly relevant where separate practices share the same premises, eg. dentist and physiotherapist.

There are two versions of SAP, both observing a full 'double entry' system - most important if you are to balance the books. Version #2 takes debtors and creditors into account when arriving at a true Profit/Loss figure. Version #3 on the other hand ignores debtors and creditors in the P/L calculation. This version is for businesses which are run on a cash basis - that is the P/L is not affected until income or expenditure actually happen. It still allows for the control of debtors and creditors accounts, but a suspense account is used to hold the balances to keep everything straight. Most professional practices would probably use Version #3. This is the version I looked at.

Starting up

Like most carefully designed software SAP is menu driven. It consists of eleven primary modules, each accessed through a main menu, with sub-menus or options under some of them. All the modules are held on one double density disc. Two other discs are supplied in the package - a 'Start of Day' disc and a 'Data disc' (also containing a standard Chart of Accounts and the registered name of the user). The 'Start of Day' disc is inserted into drive A and automatically loads the modules from the Module disc in drive B. The program then asks for the data disc which replaces the module disc and the main menu appears. Displayed are the eleven modules plus a twelfth providing a help facility.

When SAP is first issued to a user, certain standard information is set up. This standard information (or parameters) can be changed or set up - such as the trading name and address, brought forward entries and so on. Unfortunately, you still have the process of setting up name and address files - this can never be avoided whatever package one buys.

In the case of medical practitioners, dentists and the like, one of the options allows for the creation or amendment of 'Items' (procedures or treatments appearing in various Health Authority schedules) and their respective charges. Other options include facilities to 'Recall' patients (now you know how some dentists manage to remember when your next check-up is due), produce mailing labels, dunning letters and so on. A point of warning though: unless you are an accountant or relatively cluey in such matters, it is

advisable to seek advice before fiddling with pre-set accounting data. Whilst the package is designed to post any transaction twice under the double entry system, nothing will make sense if the opening balances were wrong in the first place.

The Ledger

The data held in the ledger is split into six sections, each section identified by an account number. Some account numbers and descriptions are already set up, but changes can be made if desired - again, with guidance from an accountant unless you know what you are doing.

The split looks like this:

Expenses	100 to 199
Revenue/Creditors	200 to 299
Asset Ledgers	300 to 399
Liabilities Ledgers	400 to 499
Capital Ledgers	500 to 599
Debtors/Creditors	600 to 2600

Suffice to say that this is where all the transactions of a business get logged and the books balanced. Before I go too far off the track, let me return you to the main menu and take you through the twelve choices.

```

TO ENTER/LIST TRANSACTIONS.....(1)
TO DISPLAY/LIST SCHEDULE OF ACCOUNTS.....(2)
TO DISPLAY A TRIAL BALANCE.....(3)
TO DISPLAY A PROFIT/LOSS STATEMENT.....(4)
TO DISPLAY BALANCE SHEET.....(5)
TO DISPLAY A LEDGER A/C.....(6)
TO PRINT A CUSTOMER STATEMENT.....(7)
TO SET UP YOUR CUSTOMER MAILING LIST.....(7)
TO PRINT A SALES INVOICE.....(8)
TO EXIT FROM PROGRAM (back to C.P.M.).....(9)
TO MAKE JOURNAL ENTRIES.....(10)
TO DISPLAY UTILITIES PROGRAMS.....(11)
To Display on Screen HELP Programs.....(12)
    
```

ENTER YOUR CHOICE <1 to 12 >& Press <enter>.....) ? ■

▲ The Main Menu

1. Enter/List Transactions

This is the module which builds up the store of information from which most listings, enquiries and analyses will be eventually produced. Cheques issued, deposits made, sales invoices already issued and credits from suppliers or rebates to customers are logged here and a choice of the type of transaction is given before entry.

Cheques and Deposits are entered by answering a standard seven questions. You will need to identify certain account numbers before entering the transaction, eg. the expense account to be debited and the income account to be credited. In the case of supplier's invoices only the ledger account number of that supplier needs to be quoted.

If you didn't believe that doctors gave discounts - think again. In this module 'Concessional Rebates', as they are called, are handled in the same way as supplier's invoices.

Strange as it may seem you, the debtors (sales) invoices are not produced in this module. That is achieved in Module 8 -

To Print a Sales Invoice - but the transaction will appear in Module 1 for listing purposes.

A small niggler at this point. There is no check on the date entered - that is to say the program will check that the format is correct (DD/MM/YY) but it doesn't check to see if you have typed 32/05/88 instead of 23/05/88 or 23/50/88 instead of 23/05/88.

2. Display/List Schedule of Accounts

Viewing, changing or adding ledger account names or resetting balances at a year-end is the purpose of this module. [This does not include debtors and creditors which get inserted through Module 7 - Set up your Customer Mailing list. There is a good reason for this. You really only want to set up a customer name and address once, and it is also sensible to have those names and addresses identical to any that appear on a mailing label].

Selecting option 2 from the main menu generates another screen which flashes something about certain accounts being mandatory, but before I could read it I was whisked to a further screen presenting the various facilities associated with this module - add a new account, examine an account, list accounts and delete all balances. I just had to try the last one to see what would happen, after all it is conceivable that a finger fumbler could hit the [D] instead of an [E] which is the 'add account' option. No, it didn't delete anything but gave a warning and asked for confirmation. Saying 'Yes' still didn't delete anything. Instead, a choice of six account types were presented from which to pick. I think you would have to be pretty reckless to destroy the balances - unless, of course, it was at the year end.

3. Display a Trial Balance

A trial balance is a complete list of all ledger accounts showing their balances. If the double entry system has functioned correctly, the total of the debits and credits should agree. This module confirms (or otherwise!) the correctness of the ledger and can be displayed either on the screen or printer. The only selection to be made here is the period over which the analysis is to be made.

4. Display a Profit/Loss Statement

Depending upon whether you have spent more than you have received will show a profit or a loss on this listing. That figure is posted to a P/L ledger account to complete the Balance sheet. Perhaps that is an over-simplification - but you should get the gist. Remember that in Version #3 (the one I am looking at) ignores debtors and creditors until they pay or have been paid. Version #2 will produce a truer figure.

5. Display Balance Sheet

This is essentially a listing of all assets and liabilities for a particular period. It also includes the Profit and Loss figure (hopefully profit) transferred from the P/L Statement which adjusts the Capital.

6. Display a Ledger Account

To be more accurate this module displays the transactions

which have been posted to a nominated account. It also shows a summary figure of any journal entries which have affected the account. Details of journals can be inspected using Module 10. However, you will find that you can only look at Expense, Income or Debtor or Creditor accounts, ie. 100 to 299 and 600 and above.

7. Print a Customer Statement and set up Mailing list

This module gets two entries on the main menu. Selecting either presents another screenful of options.

They are:

- [C] Create a Customer postal file and establish client's ledger account
- [R] Examine a client's account
- [A] Amend a client's personal data
- [P] Print a statement
- [I] Enter/Add/Amend item descriptions
- [K] Issue a Sales invoice
- [X] Return to the Main Menu

Closer examination reveals, however, that option [R] will take you straight back to module 6, and [K] will move you on to module 8.

Creating a postal name and address record is straightforward though it is worth noting here that you are required to enter a patient category (from 1 to 4). This is used later to make specific selections when printing statements. A useful feature at the end of this input is an option to jump straight into the invoice production module.

Alas, I managed to 'break' the program when attempting to run statements. You see, when printing statements you have a choice of either printing singly or all at once. On the latter option you are asked whether you want balances only or full details printed, the range of account numbers and the patient category. I discovered that you must enter the range of account numbers otherwise an 'Improper Argument in 2390'

DETAILS OF SERVICES							
[]		Account Number >- 601 P/Category:- 2			
IVOR PAYNE 2 GLEBE RD MT WAVERLEY 3149							
[]		Referred by:-KILDARE on 01/04/88			
Invoice Number.. 0 /00/ 4							
Entry :	Date	Item No.:	Quantity	:X:	Unit Cost:	Descriptn. :	Total :
1	05/04/88	20	1	X	20.00	EXAMINATION	20.00
2	05/04/88	10	1	X	15.00	VACCINATION	15.00
3	05/04/88	399	10	X	5.00	PLACEBO	50.00

Cost or all Services Listed							\$ 85.00
PAYMENT OF THIS ACCOUNT IS STRICTLY MONTHLY UNLESS PRIOR ARRANGEMENTS HAVE BEEN MADE DUE TO ACCOUNTING COSTS A CHARGE OF \$5.00 WILL BE MADE FOR EACH SUBSEQUENT ACCOUNT							
Distributed by - Professional Computer Accounting Systems P/Ltd 363-2080 Copyright © R.F..P/Ltd							
▲ Part of an invoice (excluding the heading) to show the general layout. Note the 'Terms' statement.							

error message appears. I suppose I am used to just hitting the return key when asked such questions and let the program default to the lowest and highest. Perhaps this is something for the developers to have a look at. The good thing to come out of this was that no harm was done for just typing RUN will take the program back to the menu again.

8. Print a Sales Invoice

There are three options in this module. The first is simply to produce an invoice, the details of which get updated to the ledger. The second is to view a summary list of invoices produced so far and reprint an invoice. The third is to allow amendments to the name and address/account of a particular patient. This latter option merely takes the user back to Module 7.

Selecting the first option issues a request for the account name or number. If [N]ame is chosen, the name is requested followed by another request for the number of characters in the name just entered. I would think that a busy receptionist may get irritated by this. The correct record can be found if a number less than the actual number of characters in the name is declared, but if he/she overcounts, even by one, there is a long delay then a message stating that the record cannot be found. Trying again with the correct data produces an Improper Argument in 940. I believe this area of the program needs to be tidied up.

Having successfully selected the customer, the program provides a choice of invoicing from a 'Service Items List', a 'Products List' (for those people who have purchased the Stock Control Module) or a 'One-off'. Most professionals will choose the first option which will contain all the 'Items' they are likely to charge for under various Health Authority schedules - that's the one I will look at.

The program goes through a series of optional entries concerning the referral (if any), then onto the service category (Private, Repat, Pensioner etc.), the item number and the quantity. As all the relevant charging information is already held on file, this is all that is necessary to produce the first line of the invoice. Subsequent lines, up to a maximum of 10, can be entered, and on completion all lines are displayed for verification. Each invoice is automatically numbered.

This module also allows for a copy invoice to be printed in the event of a customer losing the original. The invoices (and statements for that matter) can be printed on plain paper and are in a format that allows use of 'Window' envelopes.

9. Exit from Program

The option to get out of the program and back to CP/M.

10. Make Journal Entries

This module is used for entering brought forward balances of debtors and creditors when the system is first set up, and, of course, for making adjustments to ledger accounts during the year. Although this operates easily, you must be careful when moving balances around.

11. Display Utilities Programs

There are thirteen options in this module - some of them

have already been mentioned above - but here is the full list.

1. Set up parameters for Accounts - this is used when the system is first set up and determines the business name and address to appear on your invoices and statements, initialises the ledger accounts, and allows you to set up other parameters to tailor your accounting requirements.

2. Check Transactions against balances - is used when (or if) an error is made which affects a customer or creditor balance. This utility merely adds up all those balances and checks them against those held in the balance file.

3. Register O/Due accounts - creates a register of customers who have outstanding balances and can print out that list with names and phone numbers. It is also used for printing out an individual credit control letter. Three demand letters are created using utility option five (mild, heavier and legal action), and are saved with pre-determined file names. These must be set-up before attempting to run this option otherwise you will get a 'File not found' message and will not be able to continue without reloading the program.

4. Register Item number charges - the utility for setting up or altering Charge Items. Also included in this option are facilities to list all charge items on record, alter the main headings grouping the charges and a global change facility which can increase all costs by a pre-determined percentage.

5. Mail to Customers/Suppliers - not to be confused with the patient name and address file, this is a function to create a separate file along with letters, circulars or other types of mailshots. The two can be used to produce personally addressed correspondence either singly or in multiples. This option can also be used for producing or altering a standard 'Recall' letter.

6. Make Adhesive labels - rather, it prints onto adhesive labels the names and addresses of any customer with an outstanding balance. It is likely to be used where window envelopes are not preferred.

7. Enter last year's Balance Sheet figures - another set up utility which creates all the opening balances for the General ledger. On completion, a Balance Sheet is printed for verification purposes.

8. Aged Debtor's outstanding balances - put another way, an aged debtor's analysis which pigeon-holes balances in 30, 60, 90 or 90+ day boxes. A list can be produced for a single account or all accounts either on the screen or printer.

9. Determine space on discs - a useful facility if you think you are filling up drive A, B or M. It won't tell you what to do if you have reached the limits though!

10. Register incoming stock to Inventory - this option is only used by those who purchase the Stock Control module. As my version did not have this facility I was not able to test it.

11. Customers for Recall - based on the standard Recall letter (or customised version - see option 5 above), this utility allows you to nominate patients for recall, when you want to see them, and record for how long and for what purpose you want to see them.

12. List Debtor's balances by category - there are four categories: private, workers comp., third party and pensioners coded 1 to 4. Outstanding debts of patients for each category can be displayed or printed. This utility is particu-

larly useful for bulk billing purposes.

13. Exit to main menu - say no more!

12. Display on-screen Help programs

This module provides three help files covering setting up and journals.

The manual

This is contained in a 124k LocoScript file which generates some 50 pages of documentation. There are many sections starting with "Importance of ..." in which the author tries hard to get various messages across. One message that could be lost appears on page 36 - "*There is a natural tendency to skip reading a manual such as this and plunge straight into attempting to use the program. We earnestly suggest that you resist this*" - this really would have been better at the beginning to have any effect. An index at the beginning of the manual is really the contents in page order. It would have been extremely useful to have had an alphabetical index at the end. I am afraid that I cannot jump up and down with enthusiasm over the manual. It was difficult to follow the passage of an invoice from creation to payment without frequently scouring the pages to find the relevant section. A 'flow-chart' with the modules and their options would also be useful. For such an expensive piece of software as this, I do believe it warrants a more comprehensive and structured book of instructions.

Summary

If you have come straight to my summary without reading the detail in between, you had better go back again otherwise you will miss many points.

SAP is a piece of software designed specifically for the medical professionals and in that regard achieves much more than a standard accounting system would. It is a system which can be 'tinkered' with (especially the charge item tables) and in a modified form could attract service industry interest. Because there appears not to be another package around on the Amstrad PCW for professionals, it clearly cannot be compared. Although I did not test the version with the Stock Control module, my guess is that the additional module would not necessarily make an ideal package for, say, a retailer.

Certainly, it has been developed by professionals for other professionals and that in itself carries a recommendation. In addition, it is currently being used by a number of practices. There is no doubt room for improvement in the way the program operates, especially on speed, and in particular exiting from a module. Perhaps the next update may also include some standardisation on keys, eg. always use [X] to exit. The program is relatively fool-proof, comprehensive and simple to use.

The program by itself is priced at \$1850. As a package with a PCW8512 it is priced from \$2500 to \$2950 which includes a twelve month warranty on the PCW and a free three-year service contract on the software. A bit on the pricey side you may think (so did I!) but it compares reasonably well with packages for other non-Amstrad machines.

Perhaps a spoonful of sugar will make the price go down ...

Masterfile PC

Chris Collins takes a cursory look at the PC version of Campbell System's relational database

Hello, and welcome once again to Compatible's Corner. For this month, the column must be necessarily short, as I am in the middle of moving house and finding the time to write a long column is beyond me at the moment. Also the format is going to change slightly, as this month I am reviewing a commercial product, Masterfile PC, the database manager from Campbell Systems.

For those of you that have had other Amstrad computers, you will know about Masterfile, for those who haven't I will give you a quick rundown.

The original version of Masterfile appeared way back in 1982. This was written for the original Sinclair ZX Spectrum. Since that time, there have been versions written for the Amstrad CPC and PCW ranges, and also the new Sinclair ZX Spectrum +3. Whilst all versions of the programs are designed along the same lines, they are all fully machine coded for the target machine, and modified slightly to take advantage of any specific features of the target machine.

While Masterfile PC is not copy protected as such, it does have its serial number encrypted into every database that the program produces, so there is a type of protection available for the authors.

Masterfile PC is a menu driven database manager. Typing MFPC at the prompt will load Masterfile PC, and present you with the title screen. After pressing a key at

the title screen, you are presented with the main menu. This is presented with white characters on a blue background, but all the colours used in this program can be customised to suit yourself. The main menu is in two columns, and appears to put all the often used commands on the left hand side. From this point in the program we can go to any of the other menus in the program.

Disc and File functions is the first option on the main menu. This is called up by pressing the K key. This calls up another menu (02) that allows you to access all of the normal disc and drive functions required. This includes the changing of drives and directories, loading and saving of files. DIR (3 types), export of ASCII data and printing of the file using an inbuilt spooler.

The second option on the main menu is L. This allows the direct loading of a file, bypassing the Disc Menu. Basically used only to save time.

Display menu (03) is accessed by pressing the D key. However, you will not get this far if you haven't loaded a file. After the loading of your file, pressing the D key will show your

database on the screen using format 0. You are then informed that pressing M will bring up the menu. This menu basically only shows the keys required to navigate your way around your database, plus a few others that are required at this point. The navigation keys include PgUp and PgDn, as well as the cursor keys. The other keys on this menu allow for the modification and printing of your records.

Search mode is entered by pressing the S key. It brings up a menu which allows you to select records by various methods. Searches can be carried out in a number of ways. Unselected records can also be looked at and worked on. Case sensitivity is also not a problem.

Format mode is selected by pressing the F key. This will bring up menu number 08. This is the menu that you must access to setup your screen display or format. This mode also allows for the modification of a previous format (including colours), and the copying and erasing of formats.

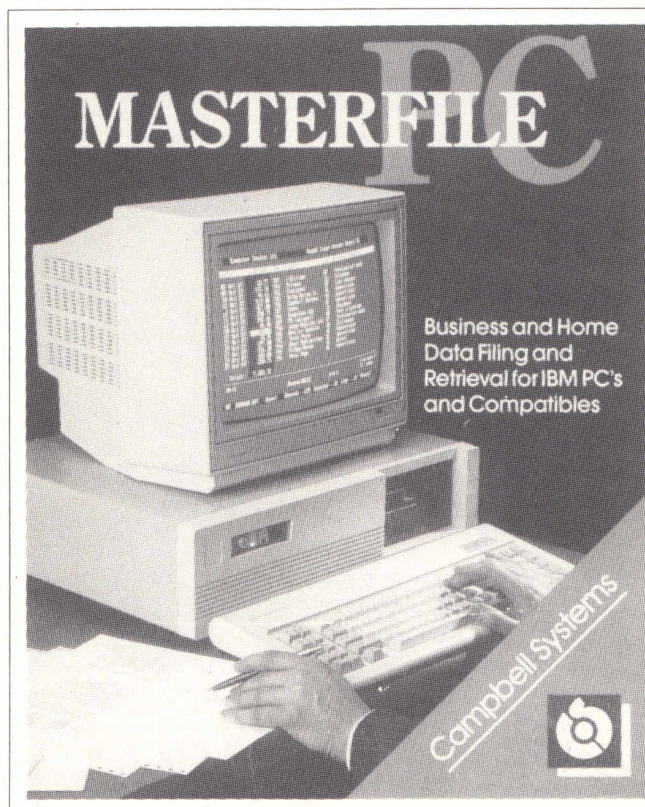
Data names is the first option on the right hand side of the main menu. Menu 05 is the result. This allows you to change the attributes (either character, numeric or date) of a record and also its name.

Most of the other options on the main menu do not call up a menu, but simply carry out a function. However, all of them are necessary, and they include the following:

- Select every record,
- Insert new record,
- Terminate Masterfile PC,
- Calculate on selected numeric fields,
- Bulk erase selected records,
- Password supply and alter (3 levels available),
- Create new file, and
- Customise colours.

As you can see the program allows for a lot of options to manipulate your data. In this light alone, for its price it is a very powerful database manager. However, all is not rosy.

A lot of the options available



to you are called up by using very unusual keys. Some of the keys that you require are mnemonic, whilst others are not. For example, search is called up with the S key and Format is called up with the F key, but to access the Disc functions, we must use the K key. It doesn't make sense.

Another problem key that I found was the one used for exiting various items. To exit all the menus, you press X. Fair enough, that makes sense. However, to exit the program you must quit with the Q key.

Something else that I didn't like in the program was the fact that the changes to the database are not written directly to disc. You must do a manual save of your data. The program does make this easier for you by letting you know if the data hasn't been saved in the last fifteen minutes, but I feel that automatic saving is a much better idea. The delay in response time is more than compensated for by the safety afforded to your data.

Whilst the above comments may sound like I hated the program, I feel that this is going too far. All I can say is that Masterfile PC is not MY style of database manager. Database managers, like word processors, are very personal choices to make. I find that PC File+ or Paradox both suit me perfectly because they are both setup to do all the work for me.

I found that Masterfile PC requires you to do a lot of the work yourself, but doesn't offer any real advantages for that sacrifice. It is difficult to learn, and you must use the manual to get the most out of it. However, it does offer one thing that is not available to PC File+ users. That is relational files. These relational files are used to allow searches of the database on more than one field.

In summary, all I can say is this. If you need the ability to search your database on more than one field, then you require Masterfile PC. It does take a lot of time to learn, but I think that in the end it would probably be worth it. However, in normal circumstances, I feel that PC File+ would better suit most people. It is easier to learn, and easier to use.

Until next month, TTFN (Tah Tah For Now).



Last month we provided you with information to get Basic2 running under MS-DOS and still have memory and disc space for some programs. Now we look at windows and graphics commands.

Arguably, Basic2 has much more scope for graphics output than most other dialects of Basic. This is because it runs under GEM which is very accommodating in the range of display facilities it provides to Basic2 and to any other program running under it for that matter. In Basic2, the secret lies in keywords.

Graphics Commands

Before anything else, you must understand how graphic commands are used to draw on the screen. We won't complicate matters at this stage by launching into the commands which determine the position, size and type of screens and windows - those will be dealt with later. Our starting point will be the display you find when Basic2 has just been loaded. The command CLEAR RESET (typed in the dialogue window) will restore the screen to its original start-up position in case you have moved anything. You now have the dialogue and edit windows on the left sitting above the Results2 window, with the Results1 window on the right.

In the main, graphics commands will be entered either in your programs or in 'direct mode', the latter meaning typed directly into the computer through the dialogue window and actioned immediately the enter key is pressed. Most

graphic commands follow a similar syntax to the CIRCLE command, so it makes sense to concentrate on that command. You can experiment with the others!

To give you some idea of the size we will be working in, take a look at the Results1 window. The part that is actually showing is approximately 5000 x 5000 user coordinates. Thus a circle filling the window can be drawn:

```
CIRCLE 2500;2500,2500
```

where the first 2500 is the x-coordinate, the second 2500 is the y-coordinate (both giving the centre of the circle) and the third is the radius. That will give you an empty circle. To fill it, you can add the command FILL WITH pt, where 'pt' is the number of the pattern you will see if you pull down the pattern menu. The full command, therefore, could look like this:

```
CIRCLE 2500;2500,2500 FILL WITH 16
```

Now you can add some colour:

```
CIRCLE 2500;2500,2500 COLOUR 4 FILL WITH 16
```

The full circle command specification is:

```
CIRCLE [#stream] x-coord;
y-coord, radius [PART start-
angle,end-angle] [START start-
style] [END end-style] [WIDTH
line-width] [STYLE line style]
[COLOUR colour] [MODE write-
mode] [FILL [ONLY]] [WITH fill-
style]
```

OK, it's longer than our example, but careful examination will make things plain. All you have to remember is that the optional entries are in the square brackets. If you don't specify them the command will merely assume defaults, except MODE which is an interactive parameter and explained fairly well in the manual.

As already mentioned the x-coord and y-coord pinpoint the centre of the circle and can be supplied as numbers or variables with values, or even as expressions. Likewise, the radius, start-angle and end-angle.


```
CLEAR RESET
OPTION DEGREES
FOR a=1 TO 1000 STEP 10
CIRCLE 2500;2500,2500-2*a PART a MOD 90, 90+a MOD 90 COLOUR a MOD 13
NEXT a
```

▲ A short program to test the CIRCLE command

Streams and Screens

Any form of output is done via a 'stream' which is connected to a display device such as a printer or screen. When Basic2 is loaded 'stream 0' gets attached to the printer, 'stream 1' gets attached to the Results1 window and 'stream 2' to the Results2 window. These are taken as the defaults. Thus PRINT #1, "ISN'T THIS FUN" will display the text on the Results1 window. However, '1' is also the default stream so you would get the same result if you left out the '#1'. If you change #1 to #2, in other words change the default, the output would go through 'stream 2' to the Results2 window.

Although you can view output through a window on the screen you will only be able to see the output if the window is present and in the right

place. That doesn't mean that the output is lost - it's just 'hidden'. All text and graphics are output to a 'virtual memory'. The details contain the information which should appear in each window, but clearly, if the window is not there, or, for example, on the wrong side of the screen or too small, you won't see it. As soon as the relevant window is restored, the information will be displayed.

Hopefully, that should explain how the PC is capable of allowing a window to be reduced and then enlarged without losing the information it is supposed to be displaying.

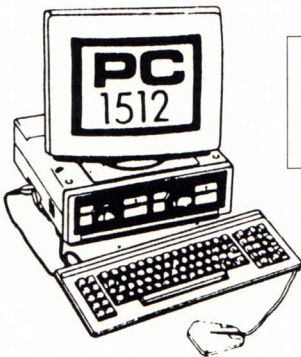
One final point, a virtual screen can be created using the SCREEN command, and, memory permitting, up to four can be used.

Windows

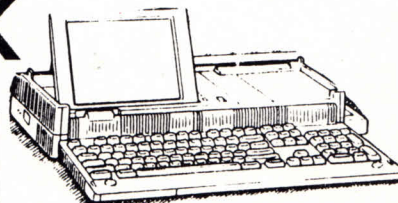
How do you get over the problem of viewing something you know is on the virtual screen but can't see it. Using the commands WINDOW CLOSE and WINDOW OPEN will either help or hinder. Of course you can try dragging the window to its correct position but you can also position it with a statement such as WINDOW #1 PLACE 50;50. In effect this positions window #1 50 pixels up and 50 pixels right of the lower left-hand corner. Any action which can be performed by a mouse on a window can also be achieved through Basic2 using keywords. If the move is in relation to the virtual screen, eg. scrolling, then measurement is in user coordinates. If the move is just on the display, then measurement is in pixels coordinates. Window information can be obtained by using XWINDOW and YWINDOW - these give the size of the window in pixels, and XPLACE and YPLACE which give the lower left-hand corner coordinates.

Next month we propose to give you a list of the more frequently used keywords plus a small sketch program utilising the mouse to demonstrate this month's tutorial.

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-----------------	-------

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LocoSpell 2	75.00

NewWord2 - only one available, was \$275.00 but now \$150.00

Tasword 8000	79.95
Tas-spell 8000	56.00
Wordstar PCW	199.00

Miscellaneous

DR CBASIC Compiler - an enhanced Cbasic compiler providing high performance for professionals or experienced Basic users.. Normally \$149, our price 100.00

Brainstorm - a tool for structuring raw ideas in a logical and sensible manner 99.00

Sage Chit Chat - communications software to use with your RS232 interface. Normally \$295 - we have one only at 175.00

Mini Office Professional - the PCW version of the highly successful Mini Office II with Spreadsheet, Word-processor, database, graphics and communications all for just 129.00

Money Manager Plus - cash book/ personal accounting 99.00

Pascal MT+ a structured programming alternative. Was \$149.00, we have one only at 95.00

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SCANNER - Master Pack - consisting of a scanning device which attaches to a PCW printer head to copy photos or other art work, Master Scan software to run it and Master Paint, a powerful graphics package. This pack is compatible with Desktop Publisher, Fleet Street Editor and Newsdesk International 279.00

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First Choice - reviewed Jun '87 (page 22) in The Amstrad User - fully integrated Word Processing with Spell checker, Spreadsheet Analysis, File Management and comms - one only, was \$295, now for just 165.00

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Available from The Amstrad User while stocks last

The Stock Market

Sorting the Bulls from the Bears

by Kevin Mclean

Last month we had a general look at the practical aspects of VIATEL and I thought we could single these out for a bit more attention. Some people might be interested in how to apply Viatel to the stockmarket, so we'll start there. (Bear in mind you are dealing with a rank amateur here, and any budding executives or stockmarket experts are welcome to contribute).

Having decided which stocks to invest in and tracking them for a while a general idea of their performance can be gauged. One Brisbane newspaper suggests a list of stocks and a dartboard and they could be right if the past performance of the stockmarket is any guide!

Buying and Selling

The stockmarket can be likened to a giant auction and shares are sold to the highest bidder. If you have purchased 10,000 KIDSTON a few years ago for \$2.00 and now see their price at \$8.00 you might decide to sell. It is also possible you might think KIDSTON will go to \$12.00 by the end of the year and decide to hold them. The risk is up to

the individual but either way VIATEL can be accessed to check the current price at any time of the day from wherever your computer may be, providing there is a telephone connection and you have a modem.

In some cases it might be better to buy the TELE once a week, especially if you find your 10c hopefuls have just skidded down to 3c and you really could have used that couple of hundred dollars to repair the leaky radiator in your car!

As mentioned in previous articles Moneywatch and various banks and brokers run a large range of services in this area. Portfolio manager is one such service and gives you a current value of all the stocks you own. This service CAN be duplicated on your own Spreadsheet with a little thought and regular purchase of any paper with a stockmarket page. OK back to Viatel.....

If you are lucky enough to have received a sample Moneywatch magazine the number of the stock that you are chasing can be accessed within a few seconds of logging on and for 12c an up-to-the-minute (nearly) report can be obtained from Melbourne or Sydney stock exchanges.

Well nowthat everyone is totally



confused I'll put in a sample spreadsheet template. Any spreadsheet should be able to produce something similar to the template. The real power of the spreadsheet is to be able to do what if calculations, which is just what we want for a share tracking operation.... I think!

SAMPLE SPREADSHEET

:	A	B	C	D	E	F	G	H
01:	STOCKMARKET	TRACKER 1987						
02:	COMPANY	TYPE	PAR	LATEST	ACTION	86 HIGH	86 LOW	CONFIRM
03:	-----							
04:	abrolhos	oil/gas	.20	.12		.08	.03	
05:	amber	min expl	.20	.26		.44	.07	
06:	acquarius	min expl	min expl	.25	1.30	SELL	1.50	.11YES
07:	audimco	min expl	.25	.34	SELL	.34	.03	
08:	augold	min expl	.25	.65	SELL	.65	.14	NO
09:	bass	oil/gas	.50	.12		.25	.05	
10:	bridge	oil/gas	.50	.94		2.23	.62	YES

and then try creating your own document template. Users of CP/M versions of Protex have several advanced stored commands: files can be merged into the document and printed, microspacing is possible (space between every word in a line is identical), printer characters can be redefined and the number of copies to be printed specified. Chapter 2, page 23, of the manual details all the commands.

Printing from Tasword will be covered next month.

Ways with words

For whom the bell tolls

Here are a couple of hints for Tasword 464 users. The first sounds a bell when Tasword has finished loading. The second provides on-screen numbering when printing multiple copies.

Alter line 180 for the bell:

```
180 GOSUB 300:LOCATE 2,10:PRINT"Loading.Tasword."
":MEMORY mh:LOAD"!tasword.bin":CLOSEIN:PRINT CHR$(
(7):FOR z=1 TO 500:NEXT:PRINT CHR$(7):MEMORY ml
```

And for on-screen numbering:

```
1165 LOCATE 6,12:PRINT"PRINTING COPY No. ";nc;" (
of "; FNppk(58) ;")"
Patrick Devine
```

Time saver

It gets tedious having to type RUN"tasword" every time you want the program. The quickest way to load Tasword is by using a short filename:

1. Run Tasword and enter basic.
2. Type SAVE"T" <return>.

From now on type RUN"T" to get into Tasword - a 50% reduction in key-presses.

Martin Southwold

Incompatible printer codes

I have a Silver Reed EXP400 which I use with Protex. I can access bold print without any problem. However, I have just bought a Silver Reed EXP500 and, unbelievably, the codes for accessing bold are different. Is there any manner in which I can get bold print from within Protex?

Gwen Kitchener

Protex as it stands, sends codes that only Epson-compatible printers recognise. The Silver Reed EXP400 is such a printer. Unfortunately the EXP500 is not. It uses codes similar to the Diablo range of printers. This doesn't mean you won't be able to use bold and other commands from Protex. Protex lets you alter the codes that are sent to the printer:

- Get into the Protex command mode.
- Type SETPRINT.
- Answer n to the first question - y to the second.

- Press b to select bold.
- Enter 27 31 2 for on. Enter 27 31 12 for off.
- Press ESC three times to get back to your text.

You have now set Protex to recognise the codes for bold. There is a catch however: the EXP500 requires you to send the characters you wish to appear in bold twice. Say you want TEXT to appear in bold: bTbTbEbEbXbXbTbT is what you would have to enter into the word-processor.

Disc version

If anyone has Amsoft's ancient word-processor, Easi-Amword, then the following modification might be useful if you wish to transfer it to disc. The easi-to-follow menu system has been retained, although several options have been modified:

Toggle (Slow or Fast tape speed) has been altered. It now enables you to catalogue the disc. But first you must transfer the program files to disc. Achieved by entering in direct mode:

```
|TAPE.IN:LOAD""
570 RUN"EASIAM2.BAS"
SAVE"EASIAM1"
LOAD""

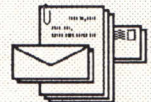
3 LOAD"EASIAM3.BIN",h-&4A
2000 ` Save doc to disc
2001 |DISC
2020 IF SF$="Drive [A]" THEN |A ELSE |B
4000 ` retrieve doc from disc
4001 |DISC
```

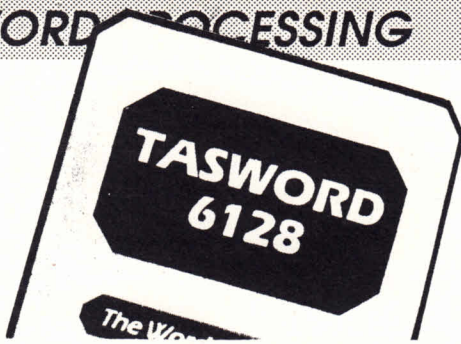
Have you a way with words ??

Do you have favourite tricks for getting the best of your word processor? Share them with other Amstrad addicts.



Send them in to:
"Words Work",
The Amstrad User,
1/245 Springvale Road,
Glen Waverley,
Victoria. 3150.





```
4505 ON ERROR GOTO 4700:GOSUB 38000,39400:OPENIN
"!"+N$
6005 IF SP$="Drive [A]" THEN |A ELSE |B
6010 IF Z$="R" THEN CAT
6015 IF Z$="A" THEN RETURN
6020 Z$=INKEY$"IF Z$="" THEN 602 0
9060 LOCATE 34,1,4:PRINT #4,"oad "
9086 LOCATE #4,1,7:PRINT #4,"isc Cat"
9087 LOCATE #4,1,8:PRINT #4,"ede fine colours"
37240 WINDOW #4,17,31,9,22:PAPER #4,1:PEN #4,0
40030 ME$="CENLSPDR":CT$="TAR" :PN$="":SF$="Dr
ive [B]":TB$=SPA CE$(80):IN$="OVERTYPE":P R$="WLJ
DSMPFAR":PW%=72:PL%= 60:JU$="Y":LF$="N":LM%=5:PF%
=12:SL%=24:PC%=1:PS%(0)=27:PS%(1)=64:CR$="ABCD":E
P%=0:ET %=26:FF$=CHR$(224)
44000 ` Disc Drive menu
44010 CLS:CLS #2:LOCATE #2,14,1:PRINT32,"DISC DRI
VE MENU"
44030 LOCATE 10,10:PRINT"oggle Disc Drive (" +SF$+
")"
44045 LOCATE 10,14:PRINT"eady (Disc Drive selecte
d)"
44200 IF SF$="Drive [A]" THEN SF$="Drive [B]" ELS
ESF$="Drive [A]"
```

```
SAVE"EASIAMS2"
MEMORY &3FFF:LOAD"",&4000
SAVE"EASIAMS3",B,&4000,&D2
```

Reset the machine and type RUN"EASIAMS1" to use Easi-Amsword from disc.
Tony Turner

Extra printer functions

If you own the Citizen 120D (or compatible) printer then here are a few extra sets of control codes that you may like to incorporate within Protex's SETPRINT option. For example, to get overstrike (the opposite to understrike or underline) type SETPRINT from the PROTEXT command mode, answer n to the first question, answer y to the second. Press o and enter 27 126 53 49 27 95 49 for the on code and 27 95 48 27 126 53 48 for off. Below is a table of other useful ones:

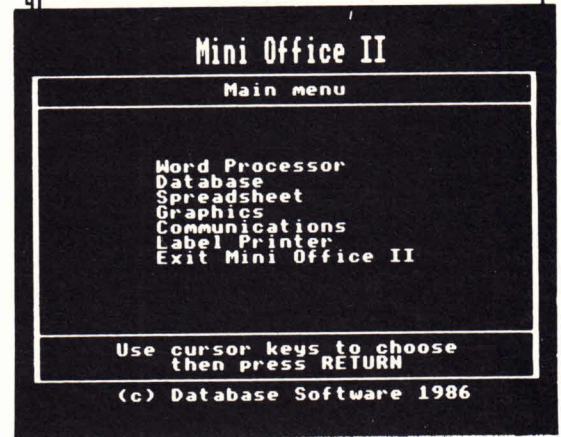
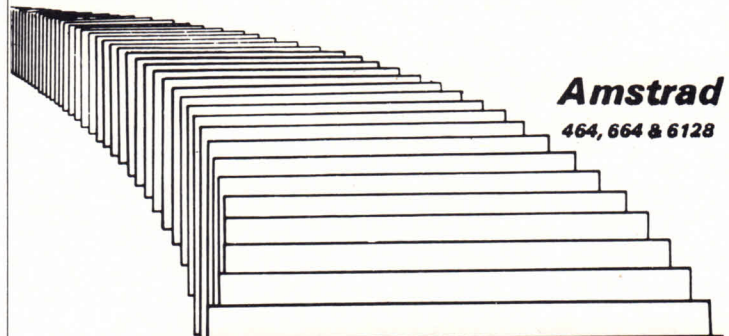
Letter	On-Code	Off-Code	Effect
r	27 126 50 49	27 126 50 48	Reverse print
v	27 126 49 49	27 126 49 48	Vertically enlarged
z	27 126 52 49	27 126 52 48	Slashed zero

Adrian Pegg

DATABASE SOFTWARE

Mini Office II

Amstrad
464, 664 & 6128



Mini-Office marvel

Here's an oddity that occurs when using the Mini-Office word-processor. Enter the 40-column mode and start writing using double spacing. When you have written half your document go back to the top and fill up the blank lines. Save the text, clear the text, change to 80-column mode and re-load the text. If you counted your lines correctly you should get your text back in two columns. It should be possible to get 4 columns by using the 20-column mode. Line counting could be tricky though.

Ron Izett

Perforation skip

When sending a listing to a printer it is handy to be able to skip over a few blank lines at the perforations. There is a dip switch on the DMP2000 and, undoubtedly, on other printers too. I find that setting the dip-switch causes havoc with printouts from Tasword and therefore leave it off.

The skip perforation facility can be enabled through software:

```
10 ` reset printer and skip perforation
20 r$=CHR$(27)+CHR$(64):s$=CHR$(27)+CHR$(78)+CHR
$(5)
30 PRINT #8,r$;s$:END
```

Graham Bennett

Patience

A CPC version of the popular card game

by Don O'Connor

The game we present to you this month is of the classic card game Patience, some people know it by the name Solitaire.

As the name suggests, it requires great patience to complete the game. That doesn't mean if you have great patience you will win every time, achieving 1 win out of 20 attempts can be considered fair.

The game has the option of viewing the instructions so it is not necessary to explain them here. To make gameplay a little quicker, I have re-defined some of the keys on the keyboard to represent the letters you would use while playing the game. The key with the period on it '.' will represent the letter 'A' and the key with the zero '0' represents the letter 'P'. The rest of the number keys can be used as normal.

If for some reason you are not happy with my colour selections, these can be changed by altering the INK statements in line(s) 2640 to 2670.

I hope you find playing Patience as much fun as I have had writing it. *I hereby promise the computer does not cheat.*

Part 1

```

10 ' *****
20 ' *
30 ' * PATIENCE *
40 ' *
50 ' * by *
60 ' *
70 ' * Don O'Connor *
80 ' *
90 ' * The Amstrad User, April(88). *
100 ' *
110 ' *****
120 '
130 DIM stack(7),hidden(7),ace(4),card$(52),pack$(52),take
n(52),stack$(7,13)
140 CALL &BC02
150 PEN 1
160 PAPER 0
170 MODE 1
180 LOCATE 11,1
190 PRINT STRING$(19,"*")
200 LOCATE 11,2
210 PRINT"* PATIENCE *"
220 LOCATE 11,3
230 PRINT"* by Don O'Connor *"

```

```

240 LOCATE 11,4
250 PRINT STRING$(19,"*")
260 i$="Do you want instructions (Y/N) ?"
270 LOCATE (40-LEN(i$))/2,13
280 PRINT i$
290 i$=UPPER$(INKEY$)
300 IF i$="" THEN 290
310 IF i$="Y" THEN inst=1
320 LOCATE 1,13
330 PRINT SPACE$(7);"Will Shuffle Cards First..";SPACE$(7)
;
340 GOSUB 3670
350 GOSUB 2610
360 ace$=i$
370 GOSUB 2560
380 pface=pface+3
390 IF pface<=pack THEN 410
400 IF pface=pack+3 THEN pface=3 ELSE pface=pack
410 GOSUB 2570
420 IF pack<>0 THEN col=ASC(RIGHT$(pack$(pface),1)):IF col
=226 OR col=229 THEN PLOT 552,188,3:ELSE PLOT 552,188,2
430 REM
440 PRINT pack$(pface);
450 MOVE 580,36
460 PRINT " ";
470 PLOT 542,36,1
480 REM
490 PRINT "?";
500 PEN 1
510 TAGOFF
520 LOCATE 33,19
530 PRINT USING "##";pface
540 LOCATE 38,19
550 PRINT USING "##";pack
560 TAG
570 i$=UPPER$(INKEY$)
580 IF i$="" THEN 570
590 IF i$="0" THEN i$="P"
600 IF (i$>"0" AND i$<"8") THEN 670
610 IF i$="P" AND pack>0 THEN 670
620 IF i$="Q" THEN 2480
630 TAGOFF
640 PRINT CHR$(7);

```

```

650 TAG
660 GOTO 450
670 MOVE 542,36
680 PRINT i$;
690 move1$=i$
700 MOVE 580,36
710 PRINT "?";
720 i$=UPPER$(INKEY$)
730 IF i$="" THEN 720
740 IF i$="0" THEN i$="P"
750 IF i$="." THEN i$="A"
760 IF (i$<"0" AND i$<"8") OR i$="A" THEN 820
770 IF i$="P" AND move1$="P" THEN 820
780 TAGOFF
790 PRINT CHR$(7);
800 TAG
810 GOTO 700
820 MOVE 580,36
830 PRINT i$;
840 move2$=i$
850 IF move2$<>"A" THEN 1490
860 IF move1$="P" THEN 1330
870 mov1=VAL(move1$)
880 lmove1$=LEFT$(stack$(mov1,stack(mov1)),1)
890 rmove1$=RIGHT$(stack$(mov1,stack(mov1)),1)
900 FOR i=1 TO LEN(ace$)
910 IF lmove1$=MID$(ace$,i,1) THEN nxt=i:i=LEN(ace$)
920 NEXT
930 IF rmove1$="" THEN 2430
940 ace=ASC(rmove1$)-225
950 IF ace(ace)<>nxt-1 THEN 2430
960 ace(ace)=ace(ace)+1
970 i=stack(mov1)
980 REM
990 PLOT mov1*64-32,(12-(i-1))*33-5,0
1000 DRAWR 50,0
1010 DRAWR 0,-29
1020 DRAWR -50,0
1030 DRAWR 0,29
1040 MOVE mov1*64-22,(12-(i-1))*33-13
1050 PRINT stack$(mov1,i);
1060 PLOT 700,0,1
1070 stack$(mov1,i)=""
1080 stack(mov1)=stack(mov1)-1
1090 IF stack(mov1)<>0 THEN 1270
1100 IF hidden(mov1)=0 THEN 1270
1110 stack(mov1)=1
1120 stack$(mov1,1)=hidden$(mov1,hidden(mov1))
1130 hidden$(mov1,hidden(mov1))=""
1140 hidden(mov1)=hidden(mov1)-1
1150 REM
1160 PLOT mov1*64+(hidden(mov1)+1)*10-42,395,0
1170 REM
1180 PLOT mov1*64-32,12*33-5,1
1190 DRAWR 50,0
1200 DRAWR 0,-29
1210 DRAWR -50,0
1220 DRAWR 0,29
1230 col=ASC(RIGHT$(stack$(mov1,1),1))
1240 IF col=226 OR col=229 THEN xx=3 ELSE xx=2
1250 PLOT mov1*64-22,12*33-13,xx
1260 PRINT stack$(mov1,1);
1270 pface=pface-3
1280 col=ASC(RIGHT$(rmove1$,1))
1290 IF col=226 OR col=229 THEN xx=3 ELSE xx=2
1300 PLOT 552,ace*32+229,xx
1310 PRINT lmove1$;rmove1$;
1320 GOTO 2420
1330 mov1=VAL(move1$)
1340 lmove1$=LEFT$(pack$(pface),1)
1350 rmove1$=RIGHT$(pack$(pface),1)
1360 FOR i=1 TO LEN(ace$)
1370 IF lmove1$=MID$(ace$,i,1) THEN nxt=i:i=LEN(ace$)
1380 NEXT
1390 ace=ASC(rmove1$)-225
1400 IF ace(ace)<>nxt-1 THEN 2430
1410 ace(ace)=ace(ace)+1
1420 pack=pack-1
1430 FOR i=pface TO pack
1440 pack$(i)=pack$(i+1)
1450 NEXT
1460 pface=pface-4
1470 IF pface<-2 THEN pface=0
1480 GOTO 1280
1490 IF move2$="P" THEN 370
1500 IF move1$="P" THEN 2110
1510 mov1=VAL(move1$)
1520 mov2=VAL(move2$)
1530 IF mov1=mov2 THEN 2430
1540 lmove1$=LEFT$(stack$(mov1,1),1)
1550 rmove1$=RIGHT$(stack$(mov1,1),1)
1560 lmove2$=LEFT$(stack$(mov2,stack(mov2)),1)
1570 rmove2$=RIGHT$(stack$(mov2,stack(mov2)),1)
1580 FOR i=1 TO LEN(ace$)
1590 IF lmove1$=MID$(ace$,i,1) THEN nxt$=MID$(ace$,i+1,1):
i=LEN(ace$)
1600 NEXT
1610 IF lmove2$<>nxt$ THEN 2430
1620 IF rmove2$="" THEN 1670
1630 rmove1=ASC(rmove1$)
1640 rmove2=ASC(rmove2$)
1650 IF ((rmove2=226 OR rmove2=229) AND (rmove1=227 OR rmove1=228)) OR ((rmove2=227 OR rmove2=228) AND (rmove1=226 OR rmove1=229)) THEN 1670
1660 GOTO 2430
1670 FOR i=1 TO stack(mov1)
1680 stack(mov2)=stack(mov2)+1
1690 MOVE mov2*64-32,(12-(stack(mov2)-1))*33-5

```



```

1700 DRAWR 50,0
1710 DRAWR 0,-29
1720 DRAWR -50,0
1730 DRAWR 0,29
1740 REM
1750 PLOT mov1*64-32,(12-(i-1))*33-5,0
1760 DRAWR 50,0
1770 DRAWR 0,-29
1780 DRAWR -50,0
1790 DRAWR 0,29
1800 MOVE mov1*64-22,(12-(i-1))*33-13
1810 PRINT stack$(mov1,i);
1820 REM GRAPHICS PEN 1
1830 stack$(mov2,stack(mov2))=stack$(mov1,i)
1840 col=ASC(RIGHT$(stack$(mov2,stack(mov2)),1))
1850 IF col=226 OR col=229 THEN xx=3 ELSE xx=2
1860 PLOT mov2*64-22,(12-(stack(mov2)-1))*33-13,xx
1870 PRINT stack$(mov2,stack(mov2));
1880 stack$(mov1,i)=""
1890 PLOT 800,800,1
1900 NEXT
1910 stack(mov1)=0
1920 IF hidden(mov1)=0 THEN 2090
1930 stack(mov1)=1
1940 stack$(mov1,1)=hidden$(mov1,hidden(mov1))
1950 hidden$(mov1,hidden(mov1))=""
1960 hidden(mov1)=hidden(mov1)-1
1970 REM
1980 PLOT mov1*64+(hidden(mov1)+1)*10-42,395,0
1990 REM
2000 PLOT mov1*64-32,12*33-5,1
2010 DRAWR 50,0
2020 DRAWR 0,-29
2030 DRAWR -50,0
2040 DRAWR 0,29
2050 col=ASC(RIGHT$(stack$(mov1,1),1))
2060 IF col=226 OR col=229 THEN xx=3 ELSE xx=2
2070 PLOT mov1*64-22,12*33-13,xx
2080 PRINT stack$(mov1,1);
2090 pface=pface-3
2100 GOTO 370
2110 mov2=VAL(move2$)
2120 lmove1$=LEFT$(pack$(pface),1)
2130 rmove1$=RIGHT$(pack$(pface),1)
2140 lmove2$=LEFT$(stack$(mov2,stack(mov2)),1)
2150 rmove2$=RIGHT$(stack$(mov2,stack(mov2)),1)
2160 FOR i=1 TO LEN(ace$)
2170 IF lmove1$=MID$(ace$,i,1) THEN nxt$=MID$(ace$,i+1,1):
i=LEN(ace$)
2180 NEXT
2190 IF lmove2$<nxt$ THEN 2430
2200 IF rmove2$="" THEN 2250
2210 rmove1=ASC(rmove1$)
2220 rmove2=ASC(rmove2$)

```

```

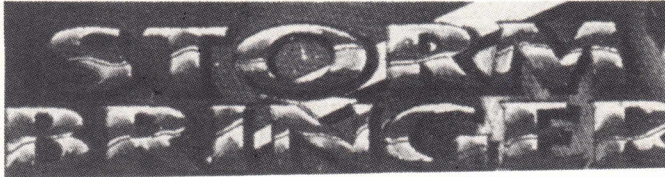
2230 IF ((rmove2=226 OR rmove2=229) AND (rmove1=227 OR rmove1=228)) OR ((rmove2=227 OR rmove2=228) AND (rmove1=226 OR rmove1=229)) THEN 2250
2240 GOTO 2430
2250 stack(mov2)=stack(mov2)+1
2260 MOVE mov2*64-32,(12-(stack(mov2)-1))*33-5
2270 DRAWR 50,0
2280 DRAWR 0,-29
2290 DRAWR -50,0
2300 DRAWR 0,29
2310 stack$(mov2,stack(mov2))=pack$(pface)
2320 col=ASC(RIGHT$(stack$(mov2,stack(mov2)),1))
2330 IF col=226 OR col=229 THEN xx=3 ELSE xx=2
2340 PLOT mov2*64-22,(12-(stack(mov2)-1))*33-13,xx
2350 PRINT stack$(mov2,stack(mov2));
2360 pack=pack-1
2370 FOR i=pface TO pack
2380 pack$(i)=pack$(i+1)
2390 NEXT
2400 pface=pface-4
2410 IF pface<-2 THEN pface=0
2420 GOTO 370
2430 TAGOFF
2440 PRINT CHR$(7)
2450 TAG
2460 pface=pface-3
2470 GOTO 370
2480 TAGOFF
2490 LOCATE 1,25
2500 PRINT"Play again (Y/N) ? ";
2510 i$=UPPER$(INKEY$)
2520 IF i$="" THEN 2510
2530 PRINT i$;
2540 IF i$="N" THEN CLS:END
2550 RUN
2560 IF ace(1)+ace(2)+ace(3)+ace(4)=52 THEN 2480
2570 IF pface>pack THEN pface=pack
2580 RETURN
2590 LOCATE 1,5
2600 END
2610 MODE 1
2620 TAG
2630 BORDER 9
2640 INK 0,9
2650 INK 1,15
2660 INK 2,6
2670 INK 3,0
2680 REM

```

Part 2 of this classic game will be published in next months magazine.

Tape subscribers please note that the full listing of Patience will be placed on June's tape.

CHEAT MODE



Infinite stamina for Mastertronic's MAD game has been provided by Julian Page. Enter using Method 1.

```
1 \ Stormbringer - tape
2 \ by Julian Page
3 \ The Amstrad User May 88
10 MODE 1: FOR x=&BE00 to
&BE3B
20 READ z$:z=VAL("&"+z$):PO
KE x,z
30 NEXT x: CALL &BE00
40 DATA 06,00,21,00,A0,11,0
0,A0
50 DATA CD,77,BC,21,00,A0,C
D,83
60 DATA BC,CD,7A,BC,21,1D,B
E,22
70 DATA 4D,A0,CD,00,A0,AF,3
2,51
80 DATA 19,32,31,1E,32,6C,1
E,32
90 DATA 86,37,32,3F,19,21,0
0,00
100 DATA 22,49,19,22,4B,19,
22,4D
110 DATA 19,C3,88,13
```

Peter Featherstone has also had a go at Mastertronic's third Magic Knight game. His Method 1 poke gives infinite spells and energy. There is no need to collect the mirror or wand. And you can also start on any screen.

```
1 \ Stormbringer - tape
2 \ by Peter Featherstone
3 \ The Amstrad User May 88
10 MODE 1: MEMORY &9FFF:LOA
D""
20 POKE &A04D,&80:POKE &A04
```

```
E,&BE
30 FOR f=&BE80 TO &BFFF
40 READ a$: IF a$="MAD" THE
N 60
50 POKE f,VAL("&"+a$):NEXT
60 CALL &A000
70 \ infinite energy
80 DATA AF,32,51,19,32,31,1
E,32
90 DATA 6C,1E,32,86,37
100 \ Infinite spell energy
110 DATA AF,32,FD,2D,32,0E,
2F
120 \ no need to get wand
130 DATA AF,32,95,35
140 \ no need to get mirror
150 DATA AF,32,10,19,32,A5,
36,32
160 DATA C9,36
170 \ sets MK's stats to
100
180 DATA 21,64,64,22,E3,41,
22,E5
190 DATA 41
200 \ start room
210 \ change 07 in line 230
to
220 \ a number between 00
and 34
230 DATA 3E,07,32,C7,16
240 \ don't remove
250 DATA C3,88,13,MAD
```

Poke Methods for tape

All this month's Cheat Mode tape pokes use method 1. If you own a 664 or 6128 first type |tape. Rewind the game tape to the beginning. Now type in the poke listing. Then type RUN and press Enter (without using the key marked CTRL or Control). Press the play on the cassette desk, then any key on the main keyboard. The tape should now start to play through in the normal way.

Jailbreak

Infinite lives have been provided by Declan Kennedy for Konami's cops'n'robbers game. Enter the poke using Method 1 and watch those bad guys drop.

```
1 \ Jailbreak
2 \ by Declan Kennedy
3 \ The Amstrad User May
88
10 MEMORY &A0FF:MODE 1
20 LOAD"!",&A100
30 FOR x=1 TO 6:READ a:P
OKE a,&A1:NEXT
40 READ a:POKE a,&BF
50 FOR x=&BF00 TO &BF06:
READ a$
60 POKE x,VAL("&"+a$):NE
XT
70 CALL &A100
80 DATA 41218,41221,4124
6,41249,41263,41285,41274
90 DATA af,32,/b,cd,c3,0
0,f0
```

Fly Spy

If you had trouble with the Fly Spy tip from a few mags. back it's because we missed something out. Pause the game, type THIS IS TOO HARD and finally press a key between 1 and 7 to get at the cheats.

Scooby Doo

Invincibility for this cartoon-like game is provided by Jan-Mirko Maczewski. Disc only.

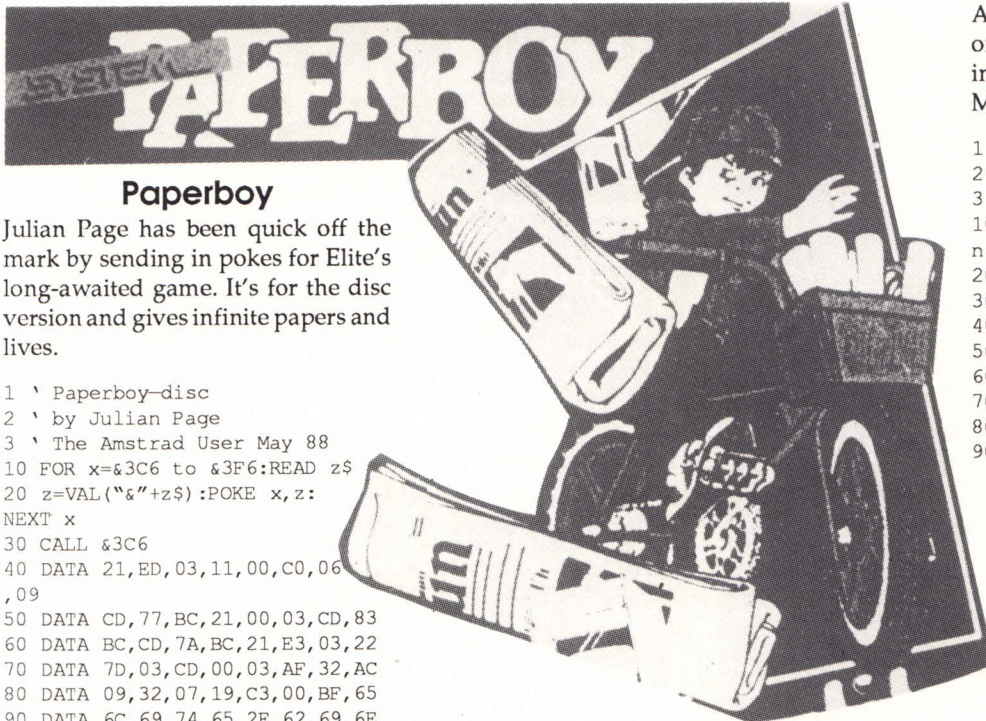
```
1 \ Scooby Doo - disc
2 \ by Jan-Mirko Maczewski
3 \ The Amstrad User June
88
10 OPENOUT"x": MEMORY &5DB
20 LOAD"scooby.bin": POKE
&657,&C3
30 POKE &658,0: POKE &659,5
40 FOR i=&5000 TO &50C:READ
w$
50 POKE i,VAL("&"+w$):NEXT
60 CALL &5DC
70 DATA AF,32,A1,79,32,A2,7
9
80 DATA 32,A3,79,C3,E8,66
```

FAIRLIGHT

Angus Kidman of Armidale has come up with a few hits on playing the game Fairlight. From the start screen, move down two screens, left two screens (you will probably need to kill the guard near the archway) and then up one screen. Walk straight into the right hand wall and then down until you transfer to the next screen. You should emerge underneath the suit of armour. Now hold down the SHIFT key for a few seconds. You will now find that if you move whilst holding down the fire button or space bar you will glide across the floor soundlessly and fast. Note that this will cancel if you jump or touch a guard, reaper etc. and that the ability will only last for about four screens. It can however be replenished at anytime by again going under the suit of armour and jumping. It can also be replenished near the far side of the upper bridge.

Send your pokes and tips to:

The Editor (Cheat Mode)
1/245 Springvale Road,
Glen Waverley, Vic 3150



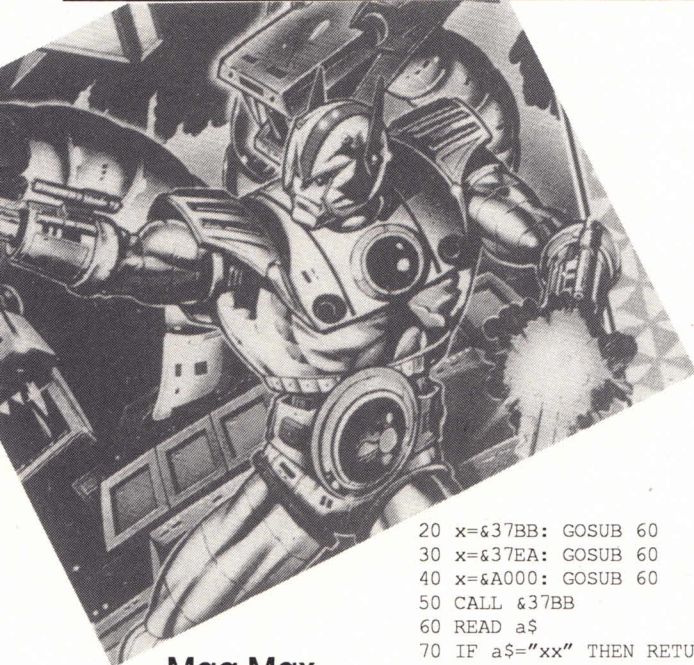
Paperboy

Julian Page has been quick off the mark by sending in pokes for Elite's long-awaited game. It's for the disc version and gives infinite papers and lives.

```
1 \ Paperboy-disc
2 \ by Julian Page
3 \ The Amstrad User May 88
10 FOR x=&3C6 to &3F6:READ z$
20 z=VAL("&"z$):POKE x,z:
NEXT x
30 CALL &3C6
40 DATA 21,ED,03,11,00,C0,06,09
50 DATA CD,77,BC,21,00,03,CD,83
60 DATA BC,CD,7A,BC,21,E3,03,22
70 DATA 7D,03,CD,00,03,AF,32,AC
80 DATA 09,32,07,19,C3,00,BF,65
90 DATA 6C,69,74,65,2E,62,69,6E
```

And here's a poke for the same game on tape. Enter it using Method 1 for infinite lives. The man to thank is Martin Pleasance.

```
1 \ Paperboy- tape
2 \ by Martin Pleasance
3 \ The Amstrad User May 88
10 FOR n=0 TO 15: READ h: INK n,h
20 NEXT n
30 DATA 0,26,24,15,6,3,1,2,20,22
40 DATA 18,9,12,10,13,16
50 FOR n=0 TO 18: READ a$
60 a=VAL("&"a$): POKE n+&8000,a
70 NEXT n: CALL &8000
80 DATA 3e,01,cd,6b,bc,af,cd,0e
90 DATA bc,01,00,00,cd,38,bc,cd
100 DATA 19,bd,c9
110 OPENOUT"dummy": MEMORY &3FF
120 LOAD"!SCREEN",&C000
130 LOAD"!PRELOC",&BF00
140 LOAD"!PCODE",&400
150 LOAD"!SCR",&C000
160 POKE &9A9,&3E: POKE &9AA,5
170 POKE &9AB,0: CALL &BF00
```



Mag Max

The Master Blaster of shoot-em-ups has been given a good poking by Tony Hoyle. You are provided with invulnerability. Enter using Method 1.

```
1 \ Mag Max - tape
2 \ by Tony Hoyle
3 \ The Amstrad User May 88
10 MEMORY &37BA: LOAD"", &37C1
```

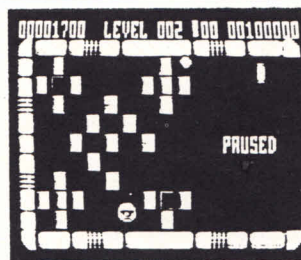
```
20 x=&37BB: GOSUB 60
30 x=&37EA: GOSUB 60
40 x=&A000: GOSUB 60
50 CALL &37BB
60 READ a$
70 IF a$="xx" THEN RETURN
80 POKE x,VAL("&"a$):
x=x+1
90 GOTO 60
100 DATA 11,40,00,21,ff,ab,xx
120 DATA 3e,5b,32,4b,00,3e,99
130 DATA 32,4e,00,xx
150 DATA 3e,b9,32,0b,b9,54,4d
160 DATA 48,3e,2e,32,0e,b9,ed
170 DATA 4b,02,bc,06,8a,11,00
```

```
180 DATA b9,c5,1a,d5,11,79,03
190 DATA 91,21,8a,b9,ae,77,23
200 DATA 1d,20,fa,15,20,f7,d1
210 DATA 13,c1,4f,05,20,e6,dd
220 DATA 21,d9,bb,11,83,00,cd
230 DATA 67,bb,21,43,a0,22,5a
240 DATA bc,c3,03,bc,3e,c9,32
250 DATA c1,1a,c3,00,02,xx
```

Saboteur II

Here is a poke for Durell's kick-and-punch game. Sent in by Peter "I have been wasting valuable revision time hacking" Featherstone. Method 1.

```
1 \ Saboteur II - tape
2 \ by Peter Featherstone
3 \ The Amstrad user May 88
10 MODE
1:OPENOUT"d":MEMORY &2FF
20 LOAD"": POKE &37E,&80
30 POKE &37F,&BE
40 FOR f=&BE80 TO &BE87:READ a$
50 POKE f,VAL("&"a$)
):NEXT
60 CALL &300
70 DATA af,32,0e,96,c3,00,04,00
```



• Krakout •

A Method 1 poke that gives infinite lives on Gremlin's brick'n'bat game. Stephen Basford is the man to thank.

```
1 \ Krakout - tape
2 \ by Stephen Basford
3 \ The Amstrad User May 88
10 BORDER 0:INK 0,0:MODE 1
20 tot=0: FOR c=&40 TO &64
30 READ d$:v=VAL("&"d$):P
```

```
OKE c,v
40 tot=tot+v: NEXT c
50 IF tot=2972 THEN CALL &40
60 PRINT "Error in DATA!":END
70 DATA 06,01,21,5D,00,11,00,01
80 DATA CD,77,BC,21,00,01,CD,83
90 DATA BC,CD,7A,BC,21,5E,00,22
100 DATA 05,01,C3,00,01,2E,AF,32
110 DATA 3A,7B,C3,94,4E
```

SmART

A window and icon driven graphics package for all CPC machines

by Robert Buckley

It has been a while since we last published an art package. This one from Robert is long but then it's very slick. SmART uses a cut down WIMP environment - windows, icons and pointer are present. The mouse is missing. Rather than moving the pointer with a mouse, you can use either keys or joystick.

The program is set up to work with a joystick. If you wish to use keys then change the variable ke=0 (in line 1050) to ke=1.

On screen you're treated to an assortment of icons and a large blank area. The blank area is the drawing board. The icons - starting from top right - allow you to draw lines, boxes, circles, vary the thickness of lines and fill areas with a chosen stipple (of which there are 18 displayed at the bottom of the screen).

Colours are selected by pressing f0, f1, f2 and f3 on the keypad.

To select an option simply move the pointer (in the shape of a pen) over the required function. Then press fire (or the copy key).

At the top of the drawing area are four options: save (the current screen), load (a previously designed screen), quit and clear (the screen).

```

1000 ' SmArt
1010 ' by Robert Buckley
1020 ' The Amstrad User, May 1988
1030 '
1040 BORDER 2:INK 0,26:INK 1,0:INK 2,24:INK 3,2:MODE 1:PEN
1
1050 PLOT 0,0,1:DEG:ke=0:pa=0:pe=1:i(3)=2:i(0)=26:i(1)=0
1060 i(2)=24:PRINT CHR$(23);CHR$(0):ENV 1,15,-1,8:
1070 routine=0:DIM co(8,8)
1080 FOR f=0 TO 7:FOR g=0 TO 7:co(f,g)=1:NEXT:NEXT
1090 PAPER 3:CLS:WINDOW#1,2,32,2,21:PAPER#1,0:CLS#1
1100 FOR f=0 TO 6 STEP 2:PLOT 10+f,56+f:DRAW 518-f,56+f:
1110 DRAW 518-f,386-f:DRAW 10+f,56+f:NEXT
1120 PEN 0:PRINT CHR$(22);CHR$(1);
1130 PRINT" Save Load Quit Clear"
1140 PRINT CHR$(22);CHR$(0);:PEN 1
1150 PAPER#1,0:WINDOW#1,35,38,3,8:CLS#1:WINDOW#2,35,38,10,
13
1160 PAPER#2,1:CLS#2:WINDOW#2,36,37,11,12:PAPER#2,0:CLS#2

```

```

1170 SYMBOL AFTER 126:SYMBOL 126,0,0,48,56,22,21,8,8
1180 SYMBOL 127,6,2,1:SYMBOL 128,0,0,0,0,0,0,128,64
1190 SYMBOL 129,96,48,16,136,212,100,24
1200 SYMBOL 130,0,0,0,31,16,16,16,16
1210 SYMBOL 131,16,16,16,16,16,31
1220 SYMBOL 132,0,0,0,252,4,4,4,4:SYMBOL 133,4,4,4,4,4,252
1230 SYMBOL 134,0,0,0,0,0,0,0,31
1240 SYMBOL 135,23,23,19,17,17,16,56
1250 SYMBOL 136,0,0,16,32,32,16,8,248
1260 SYMBOL 137,252,254,255,254,252,248,96
1270 SYMBOL 138,0,7,8,16,32,32,64,64
1280 SYMBOL 139,64,64,64,32,32,16,14,1
1290 SYMBOL 140,0,224,24,4,2,2,1,1
1300 SYMBOL 141,1,1,2,2,4,8,24,192
1310 PRINT#1,CHR$(126);CHR$(128);CHR$(130);CHR$(132);
1320 PRINT#1,CHR$(127);CHR$(129);CHR$(131);CHR$(133);
1330 PRINT#1,CHR$(134);CHR$(136);CHR$(138);CHR$(140);
1340 PRINT#1,CHR$(135);CHR$(137);CHR$(139);CHR$(141);
1350 FOR f=0 TO 3:FOR g=0 TO 3:PLOT 590+g,286+f,1:NEXT:NEXT
T
1360 FOR f=0 TO 7:FOR g=0 TO 7:PLOT 556+g,284+f,1:NEXT:NEXT
T
1370 SYMBOL 200,34,119,255,119,34,119,255,119
1380 SYMBOL 208,255,255,255,255,255,255,255:u=208
1390 SYMBOL 204,136,68,34,17,136,68,34,17
1400 SYMBOL 205,17,34,68,136,17,34,68,136
1410 SYMBOL 209,68,17,68,17,68,17,68,17
1420 SYMBOL 210,187,238,187,238,187,238,187,238
1430 SYMBOL 211,34,34,34,255,136,136,136,255
1440 FOR f=1 TO 18:WINDOW#3,f*2,f*2+1,23,24:PAPER#3,0:CLS#
3
1450 PRINT#3,CHR$(f+199);CHR$(f+199);CHR$(f+199);CHR$(f+19
9);
1460 NEXT
1470 FOR f=0 TO 600 STEP 32:PLOT f+14,16:DRAW 0,32:NEXT
1480 PLOT 14,14:DRAW 576,0:PLOT 14,48:DRAW 576,0
1490 FOR f=0 TO 3:LOCATE f+35,16:PAPER f:PRINT" ";
1500 LOCATE f+35,15:PRINT" ";:NEXT:PAPER 0
1510 FOR f=0 TO 4:PLOT 542+(f*16),144:DRAW 0,32:NEXT
1520 FOR f=0 TO 2:PLOT 542,144+(f*16):DRAW 64,0:NEXT
1530 WINDOW#3,35,38,18,21:PAPER#3,1:CLS#3:WINDOW#3,36,37,1
9,20
1540 PAPER#3,pa:PEN#3,pe:CLS#3

```

```

1550 PRINT#3,CHR$(u);CHR$(u);CHR$(u);CHR$(u);
1560 FOR f=0 TO 64 STEP 32:PLOT 544+f,270:DRAWR 0,96:NEXT
1570 FOR f=0 TO 96 STEP 32:PLOT 544,270+f:DRAWR 64,0:NEXT
1580 a$=CHR$(126)+CHR$(128):b$=CHR$(127)+CHR$(129)
1590 x=280:y=200:x1=x:y1=y
1600 IF ke=1 THEN up=0:do=2:le=8:ri=1:fi=9
1610 IF ke=0 THEN up=72:do=73:le=74:ri=75:fi=76
1620 PRINT CHR$(23);CHR$(1);:TAG:PLOT 0,-2,1:MOVE x,y
1630 PRINT a$;:MOVE x,y-16:PRINT b$;
1640 REM main bit
1650 IF INKEY (15)=0 THEN i=0:GOTO 3000
1660 IF INKEY (13)=0 THEN i=1:GOTO 3000
1670 IF INKEY (14)=0 THEN i=2:GOTO 3000
1680 IF INKEY (5)=0 THEN i=3:GOTO 3000
1690 IF INKEY (1e)=0 AND(x+inx)>0 THEN inx=inx-2:GOTO 1720
1700 IF INKEY (ri)=0 AND(x+inx)<608 THEN inx=inx+2:GOTO 1720
1710 inx=0
1720 IF INKEY (up)=0 AND(y+iny)<398 THEN iny=iny+2:GOTO 1750
1730 IF INKEY (do)=0 AND(y+iny)>32 THEN iny=iny-2:GOTO 1750
1740 iny=0
1750 IF inx>16 THEN inx=16
1760 IF iny>16 THEN iny=16
1770 IF INKEY (fi)=0 THEN 1860
1780 IF routine=2 THEN c=0:d=0
1790 IF routine=4 AND c<>0 AND d<>0 THEN 2500
1800 x=x+inx:y=y+iny
1810 IF x<>x1 OR y<>y1 THEN 1830
1820 GOTO 1640
1830 PLOT 0-2,1:MOVE x1,y1:PRINT a$;:MOVE x1,y1-16:PRINT b$;
1840 MOVE x,y:PRINT a$;:MOVE x,y-16:PRINT b$;:x1=x:y1=y
1850 GOTO 1640
1860 REM fire button pressed
1870 IF x>12 AND x<508 AND y>66 AND y<384 THEN 2570
1880 IF x>542 AND x<568 AND y>340 AND y<368 THEN 2130
1890 IF x>568 AND x<602 AND y>340 AND y<368 THEN 2250
1900 IF x>574 AND y>306 AND x<602 AND y<336 THEN 2440
1910 IF x>542 AND x<568 AND y>276 AND y<304 THEN SOUND 1,200,0,15,1:po=1:GOTO 1640
1920 IF x>568 AND x<602 AND y>276 AND y<304 THEN SOUND 1,200,0,15,1:po=0:GOTO 1640
1930 IF x>542 AND y>308 AND x<572 AND y<334 THEN 2380
1940 IF x>540 AND y>148 AND x<602 AND y<176 THEN 2310
1950 IF x>12 AND y>20 AND x<584 AND y<50 THEN 2170
1960 IF y>390 THEN 1980
1970 SOUND 1,100,0,15,1:GOTO 1640
1980 IF x>410 AND x<492 THEN 2030
1990 IF x>286 AND x<346 THEN END
2000 IF x>154 AND x<222 THEN 2060
2010 IF x>23 AND x<92 THEN 2090
2020 GOTO 1970

```

```

2030 GOSUB 3030:TAGOFF:PRINT CHR$(23);CHR$(0);
2040 FOR f=18 TO 510 STEP 2:PLOT f,64,0:DRAWR 0,314:NEXT
2050 PRINT CHR$(23);CHR$(1);:TAG:GOSUB 3030:GOTO 1640
2060 SOUND 1,200,0,15,1:SOUND 1,50,0,15,1:SOUND 1,200,0,15,1
2070 GOSUB 3030
2080 LOAD"!smart.scr",&C000:GOSUB 3030:GOTO 1640
2090 SOUND 1,200,0,15,1:SOUND 1,50,0,15,1:SOUND 1,200,0,15,1
2100 FOR f=1 TO 500:NEXT:GOSUB 3030
2110 g$=INKEY$:IF g$="" THEN 2110
2120 SAVE"!smart.scr",b,&C000,&4000:GOSUB 3030:GOTO 1640
2130 GOSUB 3030:a$=CHR$(126)+CHR$(128):b$=CHR$(127)+CHR$(129)
2140 CLS#2:PRINT#2,a$;b$;:GOSUB 3030
2150 SOUND 1,200,0,15,1
2160 FOR f=1 TO 200:NEXT:routine=1:GOTO 1640
2170 REM choose hatch
2180 u=x-10:u=INT(u/32)
2190 u=u+200:WINDOW#3,35,38,18,21:PAPER#3,1:CLS#3
2200 WINDOW#3,36,37,19,20:PAPER#3,pa:PEN#3,pe:CLS#3
2210 PRINT#3,CHR$(u);CHR$(u);CHR$(u);CHR$(u);
2220 FOR f=0 TO 7:FOR g=0 TO 7:j=TEST((f*2)+560,(g*2)+90)
2230 co(f,7-g)=j:NEXT:NEXT
2240 GOTO 1960
2250 REM rectangle of box routine
2260 GOSUB 3030:a$=CHR$(130)+CHR$(132):b$=CHR$(131)+CHR$(133)
2270 CLS#2:PRINT#2,a$;b$;:a$=CHR$(126)+CHR$(128)
2280 b$=CHR$(127)+CHR$(129):GOSUB 3030
2290 SOUND 1,200,0,15,1
2300 FOR f=1 TO 200:NEXT:routine=2:GOTO 1640
2310 k=x-540:k=INT(k/16)
2320 IF y>=164 THEN pe=k ELSE pa=k
2330 WINDOW#3,36,37,19,20:PAPER#3,pa:PEN#3,pe:CLS#3
2340 PRINT#3,CHR$(u);CHR$(u);CHR$(u);
2350 FOR f=0 TO 7:FOR g=0 TO 7:j=TEST((f*2)+560,(g*2)+90)
2360 co(f,7-g)=j:NEXT:NEXT
2370 GOTO 1960
2380 REM set up fill command
2390 GOSUB 3030:a$=CHR$(134)+CHR$(136):b$=CHR$(135)+CHR$(137)
2400 CLS#2:PRINT#2,a$;b$;:a$=CHR$(126)+CHR$(128)
2410 b$=CHR$(127)+CHR$(129):GOSUB 3030
2420 SOUND 1,200,0,15,1
2430 FOR f=1 TO 200:NEXT:routine=3:GOTO 1640
2440 REM rectangle of oblong routine
2450 GOSUB 3030:a$=CHR$(138)+CHR$(140):b$=CHR$(139)+CHR$(141)
2460 CLS#2:PRINT#2,a$;b$;:a$=CHR$(126)+CHR$(128)
2470 b$=CHR$(127)+CHR$(129):GOSUB 3030
2480 SOUND 1,200,0,15,1
2490 FOR f=1 TO 200:NEXT:routine=4:GOTO 1640
2500 REM draw circle

```


Adventurer's Attic

Philip Riley provides some clues to souls lost in the Adventurer's 4-Pack compilation

Solving an Adventure

So you think you're brave enough to track down the evil being and put an end to his evil ways. (HA!)

These are the words that first greet you when playing the game Dracula on the Adventure 4-pack. It is the popularity of this pack and the fact that we have had a few phone calls from people who are having a little trouble, that *together* we will take on the evil being (well I will at least get you into the castle). If you are new to adventurer's and have the pack you should find the following helpful.

So here we are in the village by a sign post that points out the castle to the South. We are also told of a church to the North. Well we don't want to go to the castle straight away, let's look around a little first. Type in 'N' and we will move North into the church where we find some matches, type in 'GET MATCHES' - after all, matches can always come in useful. From the church we can go South, East or West. I know that to the East and West is the Enchanted forest (the forest surrounds the whole village). The forest is in fact a maze in which it is very easy to get lost so we will leave it alone for now - you don't want to spend all night in a maze do you.

So keep on going South for now. Going along all right? What do you mean it's gone all dark? Try 'LIGHT MATCH', no good eh, well I suppose we had better go and look for a lantern and guess what, I know where it is. Yep that's right, in the maze. So off you go back the way you came and trundle on into the enchanted forest and don't come back until you have found the lantern.

Ah, you're back are you, good, and you have got the lantern, that's even better, try 'LIGHT LANTERN' - you

see how simple it is when you know how. Now you are in the gatehouse of the castle. You can see a portcullis. No don't try taking the portcullis (a portcullis, for anyone who has no idea, is the large gate at the entrance of a castle that moves up and down. No the portcullis moves up and down not the castle).

Off you go then into the castle. What's up now? The portcullis just slammed down behind you, don't worry about it that sort of thing happens all the time in this sort of adventure just keep on going and forget it.

Well as I promised here we are in drac's castle and from here on you can find all sorts of weird and wonderful things to help and hinder you. Just look around and I am sure you will find a Hunchback, Zombie and suit of armour (no not a Hunchback zombie wearing a suit of armour, all three are separate in different parts of the castle) and all blocking your way. How do you get past them? Just look around the castle you will find a tin opener, a cigar, a snooker ball, even some nails. How do I know all this? Simple, I have been this way before my friend. Well I have got to get going now I will see you at the other end of the game, if you make it that is. Good luck.

That new Basic, Again!!

Well now for all of you people out there in user land who wish to know more about Zippy basic, you remember the review last month, well just spell LIRPA LOOF backwards and all will be revealed. What can I say except SORRY ABOUT THAT FOLKS.

Adventure Contact List

Now onto more important affairs, yes that's right the adventure contact list. For those of you who don't know what

we are talking about just read on.

Every couple of months or so we will be publishing a list of names and addresses with a list of adventures. Write to the name and address with your problem on one of the adventures listed and you will receive the answer to your problems, hopefully. Now before we go any further there are a few ground rules which I will outline here:

Those Who Are Stuck

- Anyone sending a letter with a problem must send a stamped, self addressed envelope.
- If you don't get a reply please let us know. (If we get too many complaints of any one person not replying to letters then we will take the name off the list.) It's all up to you lot to make it work so go to it.

The Helpers

- Only send in your name for inclusion in the list if you have completed the adventure.
- Anyone who receives a letter without the aforementioned envelope is not under any obligation to reply. (We leave this up to you, if you wish to pay out money for a stamp etc. that is up to you.)
- If you feel that you have had enough let us know and your name will be taken off the list.

Adventure Clubs

Next item on the agenda is adventurers clubs. We have had a couple of letters from different people in the past saying that they would like to start some sort of adventurers club to run along the same guidelines as a user group. Anyone interested in this line of thought could write to this column and I will try to put interested parties in

THE CONTACT LIST	
Name/Address:	Specialising In:
<p>Jason Pavy 105 Lyall St. Kalgoorlie W.A. 6430.</p>	<p>The Hobbit Forest at Worlds End</p>
<p>Karla Slack P.O. Box 201 Springwood N.S.W. 2777.</p>	<p>Adventure Quest The Hobbit (see Hint Sheet, Feb 1988) Lord of The Rings 1 The Neverending Story</p>

touch with each other in the various states.

Have you noticed that pens just seem to come and go of their own accord. One time you will open the drawer and they have had some kind of a baby boon and all you can see is pens, yet other times they have been hit by some terrible plague that has wiped them all out leaving just one red pen that dried up years ago. Well our finish to the column this month may shed some light on the matter. It comes from Douglas Mansell who finished his letter BEWARE of the pen snatching goblins. See you next month.

QUESTIONS

Here's one concerning an oldy but a goody, King Solomon's Mines. Mark Eaton would like to know how to get out of the lagoon once you have dived

into it.

Next we have two questions for Jewels of Babylon, Shirley Jones and her sister would like to know what to do when you reach the cannibals and the octopus.

What is the location of the ink in Seabase Delta is the question asked by Chris Maloney.

Chris is also having a couple of problems in Necris Dome, where exactly is the Arch Mandroid and how do you reactivate the re-energiser pads.

Mark Eaton would like to know what the blue light in the stone slab means in Warlord. Then Mark Eaton and James Green (that's James Green not James Brown) would like to know how do you get past the demons and how do you get the amulet off the druid. And while we are talking about Warlord, Evette Gale tells us that you will get some rather interesting answers if you use certain slang in the game.

Evette then goes on to tell us that she

is stuck in Neverending Story. It appears that she has completed the task but the game has not ended (maybe it really is a neverending story). She is at the moment in the ivory tower and would like to know how to bring the game to a close.

Lastly another one from Mark, how do you find the pyramid in Infidel.

ANSWERS

First lost soul to be helped is Jason Pavy. To get out of the Quicksand in King Solomon's Mines you must give water to the dying adventurer. (The water can be collected in the canteen at the river.) After the adventurer has died you can move the body and find a machete. Tie the rope to the machete and go along your merry way, when stuck in the quicksand 'THROW ROPE TO TREE' then pull the rope three times and you should be free. Oh, by the way that little tip came from Mark Eaton.

Douglas Mansell has let us know how to find the Platinum Pyramid in Classic Adventure. Go to the room with the rock in the middle (that is the rock with "YZ" on it) of the 'PLUGH' room. When you are there type 'PLOVER' and you will be magically transported to the dark room (this is next to the plover room). Now you will see the platinum pyramid, pick it up and say 'PLOVER'; again.

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---	---

Have you tried the Classic Quest Series?

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Witch Hunt - very hard.

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See Page 24 for ordering details.

Hint Sheet

THE PAWN From Travis Hall

The Aim: The aim of The Pawn is to destroy the wicked Kronos who will kill you if you do his duties which he asks. If you kill Kronos and save the King's Daughter your game will have come to an end, but it's more than just kill Kronos and save the daughter as you will find.

Palace Gardens: Have a look around, examine a few things then go in the object that most people have in their back yard.

Hoe and Rake: Those two objects come in very handy with the heavy groundwork but they must be combined with a certain object.

Guru: Well the guru's laughing at something and it's not your wristband (wait a minute come to think of it, it might be the wristband your wearing). I'm not sure but if it is you'd better hide it from him.

Devil: When you meet the devil the first thing to do is examine the thing he's sitting on and ask the devil about the wristband.

Dragon: The poor old Dragon's blind but he can sure smell anything that moves. Don't worry just hang around a while and you'll find out. (Seriously, point the 'white' at the shadows then shine the 'white' at shadows.

Kronos: Ask Kronos about the wristband and take what he offers

but when you do what he tells you to go straight to the devil.

Trowel: The Trowel could be used for removing lumps in low areas.

Potion Bottle: Which the devil will give you, throw it at the wicked and awful Kronos.

Snowman: If you are disguised as that horrible person you may pass the good old snowman.

Alchemists: These alchemists need something to eat. You'd better buy something off someone honest for them or you'll never end your quest.

Jerry Lee Lewis: Well, it's the all time favourite in Hell still playing his piano. But it's pretty hot there so I think a nice cold drink would go very well for him.

Whisky: Can be purchased from Honest John for a mere coin and it will go to someone who likes people to knock on their door.

Wheelbarrow: Forget it.

Snow: Well you can find snow in high places and it could be what the Guru asked for but first it must melt.

Treehouse: Moving something heavy in the treehouse should be done in private. How you get privacy well I'd close my door for starters.

Hard Hat : The hard hat should be worn in the lift which you will find a very long way down in the ground.

Wristband: This is the reason for your adventure but only if you could remove it. Maybe the devil can help to have Kronos killed.

Aerosol: This can of Aerosol can preserve anything you spray that is dead and maybe it would come in handy after you've killed Kronos.

Rope: This is a very handy object to climb down especially in cupboards where there are hooks leading down.

Listing: When given the program listing type Debug listing.

King's Daughter: She is trapped in the Ice Tower. When you are disguised and have the magic key you may free her.

Note: There's much more of the game for you to figure out yourself but you are still in for some very long nights because I know I was. Good luck with the Pawn and to all who don't own it I recommend you to buy it.

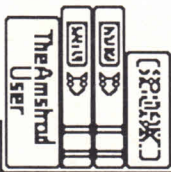
This is our seventh Hint Sheet and earns Travis a cheque for \$25. Now that you have the format the sheet should take, why not cash in your experience and send your solutions (don't give whole game away) to:

*The Editor (Hint Sheets),
The Amstrad User,
1/245 Springvale Road,
Glen Waverley, Victoria. 3150.*

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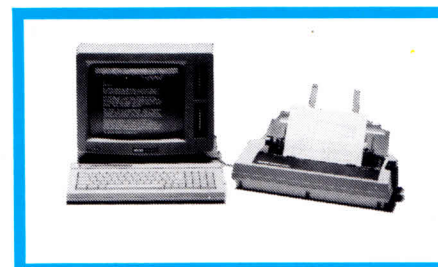
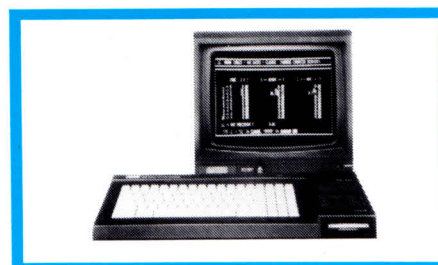
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Sales Contact : Martin McManic		Mega House
Telephone : 0245 654321		142-145 London Road
Reference : MCL		Chelmsford
		Essex CM12 5SG
Date of last order : 14 Aug 86		
Value to date : £31,455.00		

Ref	Maker	Model	Specification	Price ex VAT
C5001	Epson	FX85	100cps 40MLA 00col	E310
C5002	Epson	FX105	100cps 40MLA 132col	E410
C5003	Epson	FX100	100cps 132col	E195
C5004	Epson	LX80	100cps 220LA 00col	E435
C5005	Epson	LX80	100cps 50MLA 00col	E575
C5006	Epson	LX80	100cps 50MLA 132col	E275
C5007	Epson	LX80	100cps 50MLA 00col	E295
C5008	Epson	LX80	100cps 45MLA 00col	E370
C5009	Canon	450	100cps 45MLA 132col	E240
C5010	Canon	455	100cps 45MLA 00col Colour	E410
C5011	Canon	5510	15cps daisywheel	E530
C5012	Juki	5520	30cps daisywheel	E1,795
C5013	Juki	6100	30cps daisywheel	E2,700
C5014	Juki	6300	280cps 50MLA 132col	E1,990
C5015	Fujitsu	DK	8 page min 04	E280
C5016	Fujitsu	LPPSA1	8 page min 04 graphics	E350
C5017	Canon	LPPB2	8 page min 04	E1,795
C5018	Canon	Laser	8 page min 04 graphics	E2,700
C5019	HP	Laser	100cps 50MLA 00col	E1,990
C5020	HP	HP-810		E285
C5021	Taxan			

Ref on off
 Record: 00021
 Selected: 00021
 I: Ref
 Format: 1

Customer Details and Invoices

British United Freight 493 Western Avenue Gloucester GL9 5JN		Tel: 0452 654321 Contact: Mike M Ref: BUF
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Invoice	Tax point	Amount	Date paid	Co
12004	20 Aug 87	£235.00	02 Oct 87	--
12399	29 Aug 87	£98.00	02 Oct 87	--
12450	01 Oct 87	£305.00		re
12453	21 Oct 87	£133.00		
12533	03 Nov 87	£1,004.50		
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		

03: Display Options

- Steer using F1-F4
- Alter data F5
- Erase data DEL
- Assign to set A
- First page B
- Next page ENTER
- Find key = 00 F
- Go to record number G
- Print P
- Print single record D
- Erase record E
- Insert new record I
- Show re-sequenced R
- Rotate format S
- Go to search X
- Exit to main menu X

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

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.

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