

The Aussie Mag
for Amstrad owners

THE AMSTRAD USER

Issue No. 26 \$3.75 March 1987

AMX PAGERMAKER

FOR THE AMSTRAD
CPC 6128
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News has broken of a remarkable development in publishing. AMS, successful AMX Magazine Pagemaker that give you 'freedom Many, s claims have been product but confirmation of review in the Feb

to see the finished brool when you hear ker can do.' Further aled that the packa the potential to cre dingly good newslet releases, even nes.'

Unconfirmed eye the publishers of newspapers, had bee off tall buildings review of Pagemaki undant by the art 'Do you mean me? H ose people at AMS

STAR STR

WHAT IS HAPPENING SUCC

- Everything you want to know about the new PC1512
- Educational software reviews + more short type-ins
- Hardware scrolling explained + utility for RS232
- Spell Checkers reviewed + heaps on Locoscript
- Full review of the VID1 - the video digitiser

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is distributed and guaranteed throughout Australia by Mitsubishi Electric AWA and sold through leading department stores, retailers and computer specialists. Now there's a computer for every business at a price every business can afford.

*IBM is the trademark of International Business Machines Corp. MS DOS is the trademark of Microsoft Corp. DOS Plus, GEM Graphics Environment Manager, GEM Desktop and GEM Paint are trademarks of Digital Research Inc. Locomotive BASIC 2 is the trademark of Locomotive Software Ltd. Lotus is the trademark of Lotus Development Corporation.

Please send me more information about the PC 1512.

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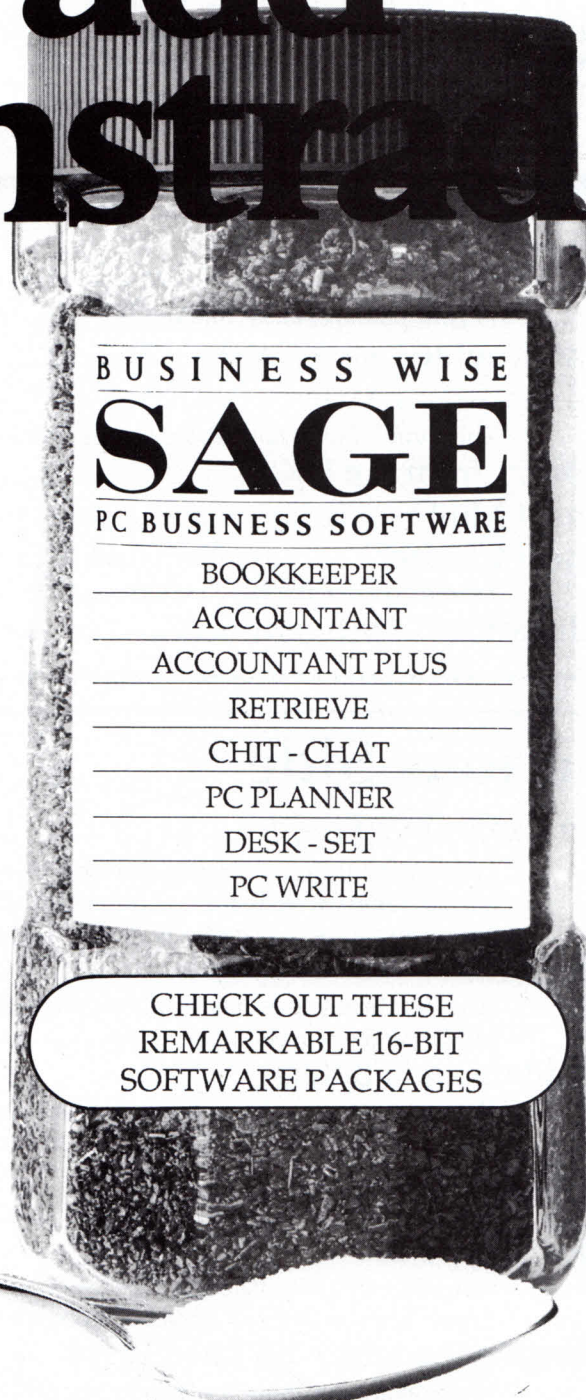
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Serious Side

DREAM MACHINE

Launched only a few months ago the Amstrad PC1512 has already made considerable waves in the computer industry. We provide the answers to some of the questions on everybody's lips

Tip-Offs

Another three pages of handy hints plus details of a free "Life" program hidden in the bowels of LocoScript

Headers and Footers

We take you beyond simple page layout and tell you how to achieve more attractive results with page headings and automatic numbering

Spelling Checkers

A review of LocoSpell and Prospell by Ben Taylor and Don Cottrell

Three Type-ins

One: To make Wordstar text files more readable; Two: A Credit Card Calculator; Three: To print multiple copies of a document

Turning the tables on LocoScript

More on layouts - this time producing neatly ruled dividing lines

Graphics on the PCW

Part Two of Arnold Goldman's introduction to GSX graphics

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CP/M Revisited

A primer for beginners - Part 5 - from Fred Robertson-Mudie 54

Making the RS232 user friendly

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For Tape subscribers, the programs can be found at the following approximate positions:

Side 1: LIGHTHO - 12 (15 blocks), AMSCOM - 167, SHUFFLE - 189

Side 2: KALEIDO - 12, PATTERNS - 23, DOUBLEHT - 30, SPACE - 39

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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Please note that whilst every effort is made to ensure the accuracy of all features and listings herein, we cannot accept any liability whatsoever for any mistakes or misprints.

Contributions are welcome from readers or other interested parties. In most

circumstances the following payments will apply to published material: Letters \$5.00, Cartoon \$5.00 and a rate of \$10.00 per page for programs, articles etc. Contributions will not be returned unless specifically requested coupled with a suitable stamped and return addressed padded bag (for tapes or discs).

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THE AMSTRAD USER

G'day,

First the good news - the price of Tomahawk for the 464/6128 is not \$57.50 as we advertised on Page 61 last month, it is \$49.95. Some readers will be pleasantly surprised when they receive their copy with a refund. The bad news is that Jewels of Darkness is not available. The first one is not our mistake, the second one is - sorry!

As we had guessed, our first step into selling software through your magazine has been to the benefit of readers living away from city areas. As most city dwellers are pretty well catered for, it is pleasing that we can help more remote users. Over the next few months we intend to increase the range, so be ready.

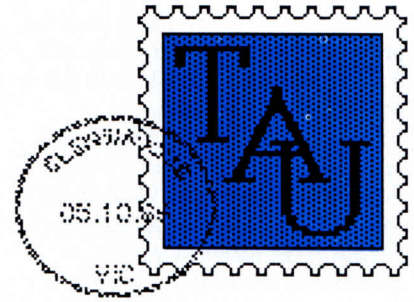
Our postie, who travels around his patch on a motor bike, is normally a happy fellow; you can tell by the flies on his teeth! But the other day he turned up with four envelopes, containing copies of your magazine, each with a message stamped on them saying "Return to sender - left address". He mumbled something about not being able to do his job properly and disappeared. They were thrown into a corner until claimed - which they are normally. But what a lot of trouble could be saved if impending moves were notified to our Subscription department.

Despite the fact that we have increased the number of pages to 72 this month there were still some items that didn't make the "cut". Most notable are the review of the mouse for PCW owners and a review of AMX Pagemaker. These (I promise) will appear in the April magazine. I hope also to have news of some more books to improve your learning curve.

See you next month,

Ed

Letters



It seems that whatever computer magazine I pick up there is always 2 or 3 letters on the problem of computer software piracy.

But to me the solution seems simple! If software houses lower their prices dramatically people will buy, not copy! For instance if a game costs \$200 and is lowered to \$30 many people will prefer to buy the game. After all, Amstrad users are basically honest! A game worth \$200 may attract 5 crazy buyers at a particular shop (with luck). But the same game lowered in price to \$30 would easily attract 50 buyers!

Of course there are always dishonest people, but by protecting the software, a few dishonest may be discouraged. It seems strange that some of the most expensive software has the worst protection (take for instance some IBM games).

I appeal to the software houses, lower your prices! Student hackers can rarely afford the extraordinary prices of some otherwise brilliant software.

I would like to end by saying that I recently subscribed to TAU and it is really fantastic! Keep up the good work!

Adam Hanieh, Glen Osmond, SA.

All Amstrad Users and Users Groups unite: an international call is going to all Amstrad Users and Users Groups to unite them around the globe, please contact the below address and learn more of this cause.
Amstrad Users Group: PO Box 584,
Port Macquarie 2444

This message printed on behalf of the Amstrad Groups Federation and the A.N.W.U.C. by the Port Macquarie Amstrad Users Association.

Thank you for your assistance in our cause.

Craig Tollis, Port Macquarie, NSW

Since my last letter to you I have been getting used to the general workings of the PCW 8256 as a computer rather than as WP. One problem that I find rather frustrating is the exact contents of the many discs I have acquired. I know there are DIRs etc. but it can be a slow process to look at each disc, type in the COMMAND and then wait.

I realise I'll be told to stop teaching Granny to suck eggs but I think I have come across a very quick way to produce a disc label without ANY great effort, except for a little cutting and pasting.

The procedure is as follows:-

- 1) Start up Locoscript in your usual manner.
- 2) Insert appropriate disc and signify disc change (f1/2).
- 3) Insert paper and obtain a dump-[EXTRA] + PTR.
- 4) Repeat 2) and 3) as required up to a maximum of 3 dumps per A4 sheet.

The cutting and pasting is then done in a low-tech mode (scissors and glue!). I find it useful to move the group cursor to highlight the key utility on each side of each disc. The advantages (for me) are the ease of use and the hard copy is just the right size for the disc cover.

Dr. S.J. Baxter, N. Sydney, NSW

In Amstrad User November 1986, page 34 you ran an article on WORDCOUNTER. This I believe could be a very convenient program for Locoscript users.

All correspondence published in this section earns a payment of five dollars.

Letters should be addressed to The Editor, The Amstrad User, Suite 1, 245 Springvale Road, Glen Waverley, Victoria 3150.

We regret that we cannot enter into any personal correspondence.

As suggested in the article I ran the program. I checked it on screen and later on a screen dump. I know that it was loaded as per listing.

However on running the program against an ASCII file I achieved the included screen dump. 134 lines for a count of 2 words? Has something been left out of the listing? I am not qualified to work out the problem.

R. Hempson, Bribie Island, QLD

This problem was answered in the Mailbag section of the January issue (first letter). As, it seems, a number of readers missed it, we repeat that line 110 should read:

*IF c\$=" " AND inwd% THEN
wds\$=wds%+1:inwd%=0 - the missing
character is underlined.*

I have been reading your magazine for a while now, as I find it informative & helpful. I am relatively a beginner at the computer Key Board as I do not have a great deal of time to study the intricacies of my machine which is a CPC 6128.

When I purchased my 6128, I thought it would be used mainly for my home records & word processing, & the occasional game, so I opted for the Green Screen Monitor. Well things as usual have turned about and it is mainly used for games. Unfortunately one loses a lot of enjoyment of the games with them only being shades of green.

My problem is that I have been trying to purchase the "MP2" Modulator which was advertised when I got my computer. I have contacted various dealers here in Victoria, and have been told that there were problems with it's use on TVs. I also contacted AWA Mitsubishi and their answer was that the orders they placed with the UK were never filled.

I still see the "MP 2" Modulator being advertised in the U.K. Amstrad User Magazine. If this unit is unsuitable for Australia, is there any way I can use my 6128 on a Monitor style Colour TV with separate RCA sockets for video and sound input?

I'm sure there are quite a few 464,664 & 6128 owners out there with a similar

problem who can't or don't want to go to the expense of purchasing a new colour Monitor, which I was quoted at around \$400 for the Amstrad unit.

I would appreciate an answer to my question, even though you may not print this in your magazine.

R. Hamilton, Melton Sth., Vic

As advised officially in the September 1986 issue (page 4), the Amstrad MP/1 and MP/2 power supply modulators were not released for sale in Australia as they were not suitable for our conditions. This means, judging by the correspondence we used to receive from people who had managed to purchase one, they don't work that well on our TVs.

I recently purchased an LP-1 Light Pen made by Trojan Products for my CPC6128.

I have a problem with the Screen Designer program included with the software. Unfortunately the print option in the program only works with a DMP-1 printer and I have a DMP-2000.

Perhaps one of your readers may be able to provide some help in this area.

D. Beltrami, Forest Hill, Vic

This is a common request - any offers from our advanced readers?

I wrote a program to display BINGO numbers using RND to generate them and an array to hold them. The array was searched and the program jumped back to try for another if the random number was already listed.

This worked, but when I tried for 100 numbers, I found that the numbers came up very slowly towards the end. The reason is clear when it is realised that there are 99 numbers waiting in the array to be rejected when the 100th is generated.

The problem is eliminated if the numbers 1-100 are each put in a separate "box", a box is selected at random, the number removed and displayed and the next number moved to the empty box and so on leaving the

last box empty. The last box is then removed. The procedure is repeated over and over with the number of boxes being reduced by one each time until the last is empty.

Using this method, the action speeds up as the end approaches. I found that the average time reduced from about 108 seconds to about 16.

Both methods are listed.

Method 1

```
10 CLS: DIM a(100)
20 FOR k=1 TO 100
30 bingonumber=INT
   (RND*100)+1
35 IF k=1 THEN 60
40 FOR j=1 to k-1: IF
   bingonumber=a(j) THEN 30
50 NEXT j
60 a(k)=bingonumber: PRINT
   bingonumber;
70 NEXT k
80 END
```

Method 2

```
10 CLS:n=100: DIM a(100)
20 FOR k=1 to 100:a(k)=k:
   NEXT
30 FOR k=1 TO 100
40 box=INT(RND*n)+1
50 bingonumber=a(box): PRINT
   bingonumber;
60 FOR j=box TO n-1:a(j)=
   a(j+1):NEXT
70 n=n-1:NEXT k
80 END
```

Arthur Pounsett, Norlane, Vic

Recently when I was reading through my old copies of THE AMSTRAD USER I found a program entitled 'Build a Sprite' by P.T. Crowe (SCAUG). I found this program in the July 1986 edition.

This program is a sprite generator that does not use the SYMBOL command but instead pokes the sprites into memory. However, this program only works in Mode 1 as it is designed to produce newsprites for the program, 'Roland on the Run'.

I have found another use for this program - I use these own sprites in my programs, but I would prefer to use these sprites in Mode 0. I would greatly appreciate it if someone could convert

the program for use in Mode 0 for me.
Peter Higgins, Black Rock, Vic

There are many people who derive much pleasure from helping others with their computing problems in general. Some, like me, are in a situation where there is no users club so we can't be helped or help others.

I'd like to construct a list of people nationwide who, like me, enjoy helping those in difficulty. This list would be similar to the one you publish which names contact people for users groups around the country. You ask for these people not to be regarded as a problem solving service. The list I wish to construct would be specifically for the purpose of problem solving.

Your magazine has grown to the stage where a task such as the one I propose might prove too costly as far as time and manpower is concerned. I'm willing to do it for nothing. I'm willing to give this magazine and

anyone else who cares to send me a SAE a list of those people who they could call on for help when the need arises.

If any readers wish to be included in this list all they have to do is send me details of their NAME, ADDRESS, PREFERRED METHOD OF CONTACT, PREFERRED CONTACT TIMES and their AREAS OF EXPERTISE. They may also like to include any limitations they have regarding who their name is to be given to. If they send a SAE as well they will be the first to receive a copy. What I get out of it is a possible list of those in my area who could help with the formation of a users' group.

Anthony Trost, Gracemere, Qld

RAINBIRD'S ART STUDIO

Contrary to the review published in the January 1987 issue, this package will not run on a 464 or 664 even with extra ram or disc drive.

My father owns a PCW8256, and recently while using DR. Logo I discovered quite accidentally that by pressing the <SHIFT>, <EXTRA> and <PTR> keys at the same time, whatever is on the screen is dumped onto the printer. This includes text and graphics. This also seems to work when using Basic and even Locoscript. Some readers may find this handy.

David Boyle, Faulconbridge, NSW

A useful tip that many old hands know but we suspect equally as many newcomers have yet to discover.

ADVERTISING DEADLINES

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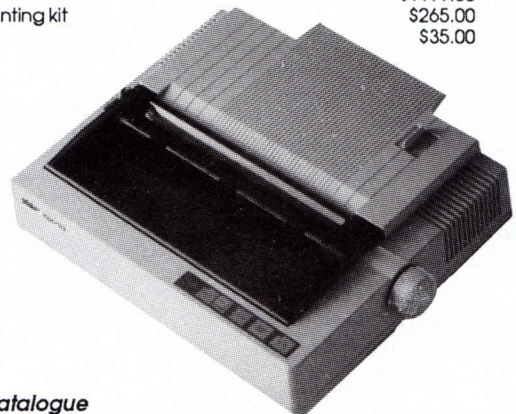
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NATIONWIDE USER GROUPS

We've mentioned it before, but it won't hurt to repeat, that we do like to receive your newsletters. They keep us up to date with what's happening and we learn from your experiences. As we get many calls from new users, your newsletters provide an accurate source of information which in turn should provide you with new members. **Western District Amstrad Users Group (Qld)** have grown out of their old venue and now meet at The Jamboree Heights State Primary School in Beanland Street. The **Eastern Amstrad User Group (Vic)** has a change of start time from 2.00 pm to 1.00 pm.

WESTERN AUSTRALIA

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President: Gerry Barr (098 41 6884)
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AMSWEST (Blackwood) USERS GROUP

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

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 Mail: The Secretary, Southside Amstrad Users Club, PO Box 324, Gosnells, WA 6110.

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 Venue: Third Tuesday of each month from 8.00 pm. Ring above number for address.

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 Youth Rep: Mark Fusco (086 36 2452)
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 Mail: The Port Pirie Amstrad User Group, c/o D.T. Green, 207 Senate Rd., Port Pirie, SA 5540.

SOUTH EAST AMSTRAD USER GROUP (SA)

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

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NORTHERN TERRITORY AMSTRAD USER GROUP

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SALE AMSTRAD GROUP

Venue: Sale Neighbourhood House in Leslie Street each Thursday night from 7.00 pm.

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 Mail: The Secretary, PO Box 100, Seaford, Vic 3198.

WENDOUREE AMSTRAD USER GROUP

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

WESTERN COMPUTER CLUB

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

USER GROUPS

ACT

CANBERRA AMSTRAD USER'S GROUP

Convenor: Neale Yardley
Secretary: Steven Walker (062 58 2323)
Treasurer: Roger McLennan (062 82 3064)
Venue: Large Lecture Theatre, Canberra TAFE College, Constitution Avenue, Ried on the first Wednesday of each month from 7.30 pm.
Mail: Secretary, 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 fourth Wednesday of each month at 8.00 p.m.

CENTRAL COAST AMSTRAD USERS CLUB

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

COFFS HARBOUR AMSTRAD COMPUTER CLUB

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

FAIRFIELD MICRO USER GROUP

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

ILLAWARRA AMSTRAD USERS CLUB

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

LISMORE AMSTRAD USERS GROUP

Contact: Kris Rosloen (066 216 810)
Max Muller (066 337 113)
Venue: Contact the above for more details.

NAMOI AMSTRAD USERS GROUP

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

NEWCASTLE AMSTRAD USER GROUP

President: John Harwood (049 48 5337)
Treasurer: Erica Harwood
Secretary: Chris Hollander (049 67 5864)
Venue: Kotara Public School, Park Avenue, Kotara on the first Tuesday of each month. Contact the above for meeting times.

PCW AUSTRALIA GROUP

Contact: Reuben E. Carlsen
Venue: Permanent venue to be arranged shortly. Meetings planned for the second Tuesday of each month from 7.30 pm.
Mail: PO Box 1879, North Sydney, NSW 2060.

PORT MACQUARIE AMSTRAD USERS GROUP

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

SYDNEY AMSTRAD COMPUTER CLUB

President: Bob Knowles (02 810 7373)
Secretary: Reed Walters (02 560 9487)
Treasurer: Jim Chryst (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 either the Secretary or Treasurer between 6.00 p.m. and 9 p.m.

QUEENSLAND

BRISBANE AMSTRAD COMPUTER CLUB

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

BUNDEBERG AMSTRAD USER'S GROUP

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

CABOOLTURE AMSTRAD USER GROUP

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

HERVEY BAY - MARYBOROUGH AMSTRAD COMPUTER USER GROUP

President: Ian Jardine (071 28 3688)
Vice-Pres: Gerhard Schulze
Sec/Treas: Les Patford (071 28 0737)
Venue: Sports Club, Tavistock Street, Torquay on the first Thursday of each month at 7.00 pm.

MACKAY AMSTRAD USER GROUP

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

PENNSULA AMSTRAD CLUB

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

SOUTHSIDE AMSTRAD USER GROUP (QLD)

President: Michael Toussaint (07 200 5414)
Vice-Pres: Peter Incoll (07 208 2332)
Secretary: Ken Henry (07 208 8730)
Treasurer: Tony Reynolds (07 841 4823)
Venue: Loganlea State High School (in the Communications Room) every third Saturday of the month starting at 2.00 p.m. A BASIC programming instruction course is held fortnightly.

TOOWOOMBA AMSTRAD USERS GROUP

President: Stephen Gale (076 35 5001)
Vice-Pres: Robert Nisbet (076 35 7025)
Secretary: Malcolm Woodside (076 32 8867)
Treasurer: Peter Fraser (076 34 7032)
Venue: Toowoomba Education Centre, Baker Street,

Toowoomba on the fourth Monday of each month.

TOWNSVILLE AMSTRAD USER GROUP

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

THE WARWICK AMSTRAD USER GROUP

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

WEIPA AMSTRAD USERS CLUB

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

WESTERN SUBURBS AMSTRAD USERS GROUP

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

TASMANIA

SOUTHERN TASMANIAN AMSTRAD USER CLUB

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

NORTHERN TASMANIA AMSTRAD COMPUTER CLUB

President: Paul Gerard (003 93 1687)
Treasurer: Russell Lockett
Secretary: Andrew Blazely (003 93 1687)
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: John Wilson (004 31 7162)
Treasurer: Peter Cocker
Publicity: Noel Davies (004 31 8490)
Venue: Burnie Technical College, Mooreville Road, Burnie on the third Saturday of each month at 1.00 p.m.

NEW ZEALAND

AMSTRAD CANTERBURY

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

WELLINGTON AMSTRAD USER GROUP

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

Closing date on amendments to this list for Issue 29 (May 1987) is 27th March 1987

ADVENTURER'S ATTIC

Some thought on INPUTs and AI

by Philip Riley

Probably the most difficult and complex part of any adventure is the PARSER. This is the part of the program that digests what you have input and tries to make sense of it.

The simplest method and the one most of the games have used up to now is the two word input, eg. GET SWORD, DROP SWORD, but now with games like The Hobbit, Lord of the Rings etc., we are seeing much more complex parsers.

With the newer games inputs like GET THE SWORD AND MOVE EAST THROUGH THE ARCHWAY are possible. You are now giving the computer two commands in one. It's all very nice, but is it really necessary? Many of these games are concentrating some much on sentence input that the game itself is suffering. Many months ago I was given a copy of The Hobbit for review. I must say that I was rather disappointed with it. The game crashed on several occasions (we did inform Melbourne House of this but I am not sure if it was corrected), and I also found it a little unexciting - or what little I saw of it before I got fed-up with it locking up on me! Still, it can be beneficial to have 'sentence input' as long as the game itself does not suffer.

One big mistake that many people make is to call this particular part of the program intelligent - it is not. It works by

word recognition. The program searches out the words you have input and checks them against its vocabulary. If it knows the word you are home and dry, but if not, the program will not 'learn' or be able to act upon it. Even the Eliza program featured some months ago (May/June 1986) is not actually intelligent. It merely looks along your input for a keyword and then picks out a random answer that matches the keyword. Artificial Intelligence (AI) on a computer as small as an Amstrad is just not feasible at the present time.

One oversight that many programmers make is probably the smallest and most frustrating for the player of the game. I am talking about not having a large enough vocabulary. For instance, when picking up an object I generally use the input GET <object name>. I have just received a copy of a new graphic adventure called AFTERSHOCK for review. Yep - you've guessed it - it will only accept TAKE <object name>. It can be annoying using a word that obviously means the same, but being told you cannot do it.

Another little annoyance can occur in the responses you are given by the program. For example, if you have a key and enter the correct command to open the door you would expect a response such as YOU UNLOCK THE DOOR WITH THE KEY. This is more helpful than just OK which some games (trying to save memory) will reply. Although in most circumstances OK will suffice, it is less than helpful

when two or more results are possible from the action.

It is so often the little things like these that make an adventure more satisfying to play. By giving as wide a vocabulary as possible and sensible answers to an input, your game will look and play a lot better. Don't worry too much about complex parsers that allow the player to input in sentences, especially if you are programming in Basic. Many of the best games I have played have just the two word input. It makes it easier for the player and programmer and leaves more memory for the rest of the game.

In closing, I would like to say that my initial response to AFTERSHOCK is good, but for the full rundown on the program you will have to wait for the review in, hopefully, the next issue.

LOST SOULS

Following numerous requests to make this section of Adventurer's Attic much larger, the Editor has succumbed to the pressure (*this month - Ed*) and allowed me to dig out some of the tips and requests that have been building up in the pending pile. I must admit it is getting difficult to remember which has been answered and which hasn't. But even if the same ground is covered a couple of times, there always appears to be a different interpretation or method. So, feast your eyes on the next page or so.

Utter despair has inspired me to write this plea of help to you. The source of my frustration is Level Nine's Red Moon. I have a couple of questions concerning this game which could be put to the readers of TAU. These are:

1. How do you get past the room of flashing lights?

2. What are the raisin and the tubing used for?

Any help would be greatly appreciated. Congratulations on a great adventure column, keep up the good work.

N. Blair, Winston Hills, NSW

ooooo

I need some help on Message from Andromeda (Interceptor). We have tried putting the key in the keyhole and the computer says "what do you do with that"? We have completed Jewels of Babylon, Lords of Time and Colossal Adventure.

Andrew then provides a tip for Dun Darach to provide billions of Iridi, but unfortunately it is undecipherable - can we have it again

Andrew, in your best writing?

Andrew, Deagon, Qld.

ooooo

In answer to James Edmundson's questions on the Hobbit; when you leave Beorn's you must find the wood elf and be captured and placed in the Elvenking's dungeon. The most common place for him to be found is, north then east and continuing east. If you have not found him by the time you have got to the elvish clearing you must go back either directly west or back through the spider webs and over the river in the boat then continue west and look for him on the misty mountains or on or near the forest road, south of Beorn's. Once you escape and jump onto the barrel which takes you to lake town, head north to find the lonely

mountain and the dragon.

When you get captured by the goblins in the cave you 'must' have Thorin with you to prevent it turning dark otherwise there is no escape from the dark. Also make sure Eirand has examined the map. So far I have completed the adventure without the help of Beorn, but I haven't scored 100%, so when I find out about Beorn, I will let you know.

D. Brooks, Maitland, NSW

ooooo

I am not sure whether I should thank you for your articles or not, as it was after reading the first Adventurer's Attic that I purchased a couple of programs and since then I have been completely hooked, but I do hope you will continue with it because I could do with some help.

I am stuck in 'Heroes of Khan' and can't get past the spider on the Pirate and am unable to find the dwarf or elf, but I can help Jason Clark who was having trouble with the troll in 'Classic Adventure'. He must throw a treasure at the troll eg. "THROW COINS" to get across the bridge and the best treasure to throw is the golden eggs as he will be able to get them back and he will need them for the troll on the other side of the bridge to come back.

Mrs. T. Moss, Launceston, TAS

ooooo

Can any of the Amstrad User readers help me? I am stuck in Firebird's 'SUBSUNK' and I have a few problems:

1. In the machinery room pump area, is there any way to open the hatch which has rusted hinges?
2. When I go down the 2nd deck passage into the Deck Connecting Well, how can I stop the water gushing in so I can get to the Pump Space?

3. Is there any way to crack the safe in the First Lieutenant's Quarters?

4. How can the overflowing sink in the Wash and Bathroom Area become unclogged. I have attached the rubber sucker to the long broom as suggested in another magazine, but no luck yet.

5. Is there any way to suck away the dust at Checkpoint Charlie?

I also have a few tips for this game.

1. Examine the holster and get the bullet. Load the gun with this bullet, keep the holster, and whenever you fire the gun and need a new bullet, just examine the holster again.

With a loaded gun, head to the Locker Room and fire the gun. A jar of 'Old Spies aftershave will then be revealed, wear this and it will enable you to enter the Deep Freeze. But the jar cannot be dropped because 'it smells too nice'.

2. Do not wear the Strainer from the Galley (if you have the temptation to) because you will have to carry and wear it for the rest of the adventure, and this takes up one of the 8 Inventory places.

One last question - what exactly is the clue on the label, as stated by Tony Blakemore (issue 12)?

I have one tip for Amsoft's Classic Adventure; don't throw the bird at the snake, just type in SW (South West). If there is no response, just keep on typing it in and you will eventually pass, usually, within 8 moves.

S. Rule, Werribee, VIC

ooooo

I really appreciate this part of the magazine because the hints have helped me out of a few tight spots. I hope your Andre Urankar can be of further assistance. I am lost in a few adventures at the moment, so will appreciate any help on the following:

HEROES OF KHAN: Can't find HALDIR or KHADIM. Stuck at the pirate, bat and spider.

SOULS of DARKON: Can't get going with this one. Have picked up lots of seemingly useless bits and pieces. Can't do anything at the altar of Daikon and though being told to pay the guide to lead you past the monolith, he took my money and did nothing.

MORDON'S QUEST: Would have been stuck forever without the "FROG" tip (can't believe anyone would have gotten that without seeing the listing) Now can't enter the password. I can't get past an invisible barrier and have been killed by the Gladiator so often that I'm scared to go near him. I have also died from loss of air because I can't find anywhere to refill the aqualung.

ROYAL QUEST: Where can I find the flint & steel? Is there anything in the desert at the dry well? I'm stuck without the flint to light my lamp.

I really hate asking for help. it's so defeatist, but its that or the loony-bin.

Mrs. B. Glissan, Toormina, NSW

ooooo

I wish to pen a reply to Stephen Snow's problem with Interceptor's "The Forest at World's End."

I have recently completed the adventure and was most disappointed with its apparent lack of lastability for it took me less than a week to complete it (actually, it took me 6 sittings, each sitting lasting for about 20 minutes). I'm still regretting parting with a good sum of money for the adventure.

Anyway, to get past the witch in her hovel Mr. Snow must first get wounded by wolves in the Forest of Sighs (which is just a wee distance from the Enchanted Wood), and call for help. A Wood Nymph will appear and tend to your wounds. She will leave you a ring which you must wear. The ring, if worn, causes the witch some magical distress and she will vanish (after screaming) when she spies the ring. In the witch's hovel, you will find a key that opens the chest found in the volcano.

As for me, I am having trouble with level 9's brilliant (and very tough) time-travelling adventure, "Lords of Time".

I have found the diamond teardrop but cannot enter another time. Perhaps some level 9 whiz out there could help me out of this predicament. "Fairlight - a prelude" by the Edge too has me foxed. I have recovered the Book of light and made my way to the wizard's room. What should I do there? I read somewhere that you must drop the Book of Light to free the wizard; but upon doing so, the magical man turns into a wraith (or reaper).

S.A. Mah, Willetton, WA

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. See also Nationwide User Groups list.

NSW

Chris Craven	Canowindra	(063) 44 1150
Trevor Farrell	Coolah/Mudgee area	(063) 77 1374
T.J. Webb	Glossodia	(045) 76 5291
David Higgins	Inverell	(067) 22 1867
Paul Wilson	Moruya	(044) 74 3160
Frank Humphreys	Mummulgum	(066) 64 7290
Bob Hall	Newcastle	(049) 52 6915
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

Stuart McLean	4/304 Albert St. Sebastopol, 3356	
Brian Russell	Ballarat	(053) 31 2058
C. van de Winkel	Ballarat	(053) 313 983
Bruce Sokel	Bendigo	(054) 42 5608
David Carbone	Burwood	(03) 29 4135
Rod Anderson	Camperdown	(055) 93 2262
Paul Walker	Heathmont	(03) 729 8657
Terry Dovey	Horsham	(053) 82 3353
Andrew Portbury	Leongatha	(056) 62 3694
Sue Kelly	Manangatang	(050) 35 1402
Angela Evans	Mt. Evelyn	(03) 736 1852
Keith McFadden	Numurkah	(058) 62 2069
Lindsay Parker	Wandin North	(059) 64 4837
Maureen Morgan	Warnambool	(055) 67 1140

QLD

Debbie Topp	Bribie Island	(075) 48 1688
Steven Doyle	Caloundra	(071) 91 3147
Mick O'Regan	Gladstone	(079) 79 2548
Kylie Telford	Goondiwindi	(076) 76 1746 (weekendsonly)
D.F. Read	Ingham	(077) 77 8576
Tim Takken	Ipswich	(07) 202 4039
Alan Laird	Maryborough	(071) 22 1982
Graeme Annabell	Rockhampton	(079) 27 4915
R.C. Watterton	Toowoomba	(076) 35 4305

SA

Lindsay Allen	Murray Bridge	(085) 32 2340
Michael Spurrier	Murray Bridge	(085) 32 6984
Mrs. S. Engler	Penola	(087) 36 6029

WA

Dave Andersen	6 Kitchener Rd Merredin, 6415	
Graeme Worth	Scarborough	(09) 341 5211
P.M. Nuyens	Waroona	(095) 33 1179

TAS

Conal McClure	Scottsdale	(003) 52 2514
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If your name appears in the above list, then please drop us a line (if you haven't already done so) to let us know how things are proceeding.

Gossip from the UK

* Amstrad is fitting an 'unnecessary' fan to all hard-disc models of the new PC in order to kill the rumours that the machine overheats. According to the Sunday Times version of the tale, the huge corporation ICI cancelled a £4-million order for the new Amstrad machine because of the supposed fault. This is denied - hotly - by both companies.

"We are getting very irritated with this overheating rumour," said Malcolm Miller, Amstrad's sales and marketing director. "We could tell every potential corporate customer that it is a lot of nonsense, but that would take a lot of time and effort. It is easier and quicker just to fit the fan and be done with it."

Alan Sugar was blunt: "The fitting of the fan was a waste of money, but it will keep some people happy. I recommend that operators switch the fan off."

* The ageing arcade classic Donkey Kong has made it to your Amstrad Screen. Ocean can be thanked for the conversion. It will be available on tape and disc.

* Pride, best known for its tape and disc utilities and whose products have often been reviewed in your magazine, has produced The Electric Lantern Show. With it, the user can produce full-size and even poster-sized printer dumps. The disc contains 28 colour pictures; these can be edited and compressed - alternatively, your own can be altered.

* Domark is releasing another set of questions for its computer version of the trivia board game. It's called the Young Player's Edition and is aimed at children from age seven and up. It comes in two forms; either just as a new set of 3000 questions (on cassette) that adds to the original Genus edition, or as a complete game (on either cassette or disc). As yet I haven't seen it, so I don't know how relevant the questions are to Australia. A version is also available for the PCWs.

* By now, most PCW owners should know of the smash hit Tomahawk, the helicopter flight simulation. It has sold well here in the UK which is hardly surprising if you've tried it. Well, following in hot pursuit is Strike Force Harrier from Mirrorsoft which puts you in the cockpit on a death or glory mission. Get a look at it if you can. Also due for release about now is Starglider from Rainbird.

* ASL or Audiogenic Software Ltd has just finished Matrix, a comprehensive spreadsheet for CPC machines.

Matrix gains over standard spreadsheets in that it can handle business presentation, database and invoices - even standard letters. The specification shows built-in database features that allow data, such as name-and-address files, to be stored in rows across the spreadsheet and then merged along

with numerical data from the sheet into a document in the Notebook.

The Notebook features text editing facilities that make it easy to prepare address labels, standard letters and invoices.

There is a graph plotting facility that lets you convert spreadsheet data into line graphs, bar graphs, histograms or pie-charts.

It certainly sounds impressive, and at £30 on cassette and £35 on disc it needs to be. I hate to think how many dollars that's going to be when it hits your shores.

* Larger software houses seem to release games in threes just lately. Imagine, not wishing to be left out, is bringing out two sports simulations and a shoot-em-up. First on line is Konami's Golf which allows you to select a club and tee-off. Stoke or match play can be chosen with differing terrain and conditions.

Super Soccer is the other sports game from Imagine. According to the press release, it 'makes you Maradona on screen.' You are given complete control over the ball: sharpshooting, passing, dribbling, sliding tackles and even diving headers. Other features include full team organisation and one or two players, with a tournament option for up to eight players. Terra Cresta, a coin-op conversion, is a shoot-em-up which was pretty furious in the arcades. Homing missiles, giant monsters and a myriad of other aliens are there to be dodged or blasted.

All the games will be available on tape and disc.

* Argus Press expects to release several new games in the first quarter of 1987. Wibstars is one, in three parts, where you run a distribution company - get the goods to the customer on time or pay the consequences.

(We have this one for review - Ed)

CHEAT MODE

Some more Tips,
Pokes and Game
busting ploys to
improve your scores.
Don't be shy - send
yours in to share with
all of us.

POKE METHODS

This is the section where we explain how to input the majority of *Cheat Mode* pokes. There are two different methods - the instructions for each poke tell you which one to use. If you have a 664 or 6128, you'll have to type | tape before using either.

Method 1: Make sure that you've rewound the game tape to the beginning. Now type in the poke listing then type RUN and press the 'Enter' key. (Don't use the key marked 'CTRL' or 'CONTROL', that will stop the poke from working.) Press the PLAY key on the cassette deck, and hit any key on the main keyboard - the space bar will do nicely. The tape should now start to play through in the normal way.

Method 2: For this method, you have to skip the first bit of the game program. To do that, start by rewinding the game tape to the beginning. Now type in the listing. Then type CAT, and press the 'Enter' key. Start the tape by pressing PLAY and hitting a key, and then watch the screen.

After a little while you'll get the message "Found SOMETHING block 1". It doesn't matter what the SOMETHING actually is - this will vary from one game to another. If the instructions with the poke just tell you to skip the first block you should stop the tape here. If the instructions tell you to skip several things, stop the tape when the "Found" message comes up for the last thing you're trying to skip.

Once you've stopped the tape press the ESC key, type RUN, and press the 'Enter' key. Now press PLAY on the tape deck, and hit a key on the keyboard to start the tape running.

FINDERS KEEPERS

This poke from R. Hernandez (no address supplied so please drop us a line to claim your reward) provides infinite lives on the Mastertronics game. It is entered using Method 2. Skip the first block, type it in then run.

```
1 'FINDERS KEEPERS
2 'AMSTRAD USER MAR 87
10 OPENOUT "D"
20 MEMORY 2047
30 LOAD "FK"
40 POKE 8398,0
50 CALL 2047
```

ROLAND GOES DIGGING

From M.J. McCallum of St. Agnes in SA comes a poke to provide infinite lives.

```
10 'Roland goes Digging
20 'Amstrad User Mar 87
30 MEMORY 17000
40 LOAD "", 17800
50 POKE 17978,0
60 CALL 18658
```

ELITE

Some tips from Tim Pratt of Payneham South in SA. When you shoot down an attacker, scooping up the fragments of his ship (with your fuel scoops) will give you a tonne of alloys. If the pirate has used an escape capsule, then scooping this up will give a tonne of slaves.

If you access the buying screen whilst docked, pressing any letter key will get the inventory page and save yourself pressing return 20 odd times.

GHOSTS 'N' GOBLINS

From Arun Mehra comes a nice little tip for the Elite arcade conversion. On level two when you reach the lifts, jump onto the first platform and at any point you can pull down on the joystick and stop it. You can then jump onto the next platform and repeat the procedure for all of them.

Z

Another disk poke which again gives between 1 and 255 lives. Type it in, save it onto the game disk and then run it.

```
1 'Z
2 'Amstrad User Mar 87
10 ENV 1,1,15,1,15,-1,5
20 ENV 2,1,13,1,13,-1,8
30 ENV 4,1,15,1,15,-1,6
```



```

40 ENV 5,1,14,1,14,-1,4
50 ENV 6,1,14,1,1,0,40,1,-14.1
60 ENV 7,1,15,1,15,-1,2
70 ENV 8,1,15,1,1,0,20,15,-1,6
80 ENV 9,15,1,2,5,0,150,15,-1,6
90 ENV 10,1,14,1,1,0,100,1,-14,1
100 ENT -1,1,-2,1
110 ENT - 2,10,-10,1,1,100,1
120 ENT -3,6,-10,2,6,10,2
130 ENT -4,1,10,1
140 ENT -5,1,2,1
150 ENT -6,20,10,1,20,-10,1
160 ENT 9,200,-2,2,200,2,2
170 MEMORY &3FFF
180 LOAD "ZED" : MODE 1
200 INPUT"How many lives ? ",lv
210 IF lv<0 OR lv>255 THEN 200
220 POKE &A0B9,lv
230 CALL &A070

```

CONTRAPTION

Roger Payne has come up with infinite time and invulnerability for the Audiogenic platform game, making it more than easy. Enter using Method 2 to skip the first block called TAPE.

```

1 'Contraption
2 'The Amstrad User Mar 87
10 OPENOUT"d"
20 h=HIMEM:MEMORY 1999
30 CLOSEOUT
40 MODE 1:INK 0,0:BORDER 0
42 INK 1,12,24:INK 2,20,10
44 INK 3,0:SPEED INK 8,8
50 LOCATE 14,6:PEN 1
52 PRINT"contraption"
54 LOCATE 16,10:PEN 2
56 PRINT>Loading"
60 LOCATE 5,15:PEN 3
62 LOAD"!":CALL28650
64 LOAD"! "
70 POKE &5CE3,0:POKE &5CE4,0:POKE
&5CE5,0
80 POKE &5CE6,0:POKE &5CE7,0:POKE
&5CE8,0
90 ENT 1,50,-2,1,40,4,1
95 ENV 1,15,-1,6
100 ENT 2,180,-100,1
105 ENV 2,15,-1,12
110 ENT 3,5,90,1
115 ENV 3,1,0,5
120 ENT 4,220,90,1
125 ENV 4,10,-1,22
130 ENT 5,220,-99,1
135 ENV5,11,-1,20

```

```

140 ENT 6,2,100,1
145 ENV 6,1,-1,2
150 ENT 7,150,22,2
155 ENV 7,75,-1,4
160 ENT 8,150,20,1
165 ENV 8,15,-1,10
170 ENT 9,1,1,40
175 ENV9,8,-1,5
180 CALL 23700

```

```

1 'Contraption
2 'The Amstrad User Mar 87
10 OPENOUT"D"
20 h=HIMEM:MEMORY 1999
30 CLOSEOUT
40 MODE 1:INK 0,0
50 BORDER 0
60 INK 1,12,24
70 INK 2,20,10
80 INK 3,0:SPEED INK 8,8
90 LOCATE 14,6:PEN 1
100 PRINT"contraption"
110 LOCATE 16,10:PEN 2
120 PRINT>Loading"
130 LOCATE 5,15:PEN 3
140 LOAD"!":CALL 28650
150 LOAD"! "
160 POKE &5CE3,0
170 POKE &5CE4,0
180 POKE &5CE5,0
190 POKE &5CE6,0
200 POKE &5CE7,0
210 POKE &5CE8,0
220 ENT 1,50,-2,1,40,4,1
230 ENV 1,15,-1,6
240 ENT 2,180,-100,1
250 ENV 2,15,-1,12
260 ENT 3,5,90,1
270 ENV 3,1,0,5
280 ENT 4,220,90,1
290 ENV 4,10,-1,22
300 ENT 5,220,-99,1
310 ENV 5,11,-1,20
320 ENT 6,2,100,1
330 ENV 6,1,-1,2
340 ENT 7,150,22,2
350 ENV 7,75,-1,4
360 ENT 8,150,20,1
370 ENV 8,15,-1,10
380 ENT 9,1,1,40
390 ENV 9,8,-1,5
400 CALL 23700

```

TERRA COGNITA

I. A. Stevenson has come up with infinite lives for

the Codemasters budget game. Enter it using Method 2 to skip the first block called TERRA-COGNITA.

```
1 'Terra Cognita
2 "The Amstrad User Mar 87
10 OPENOUT "d":MEMORY 999
20 INK 0,26:BORDER 0
30 INK 1,0:MODE 2
40 LOAD"!",&C000
50 LOAD"!",1000
60 POKE &19AE,0
70 LOAD"!",20000
80 CALL 1004
```

TRAILBLAZER

Tony Hoyle has done a lovely job on the Gremlin game, making use of an intentional cheat mode and throwing in two of his own. The poke allows you to choose several sprites and types of track, as well as to have infinite time and jumps. Just type it in, and run it with the game disk in the drive.

```
1 'Trailblazer
2 'The Amstrad User Mar 87
10 MODE 2
20 PRINT"TRACK?"
25 PRINT"(0=normal, 1=curved, 2=crossed,
3=bridged)":INPUT track
30 If track<0 OR track>3 THEN 20
40 PRINT:PRINT
42 PRINT"Sprite"
44 PRINT"(0=ball, 1=spring, 2=space
invader, 3=cube, 4=sphere,
5=helicopter, 6=thing,7=gremlin)"
50 INPUT sprite
60 If sprite<0 OR sprite>7 THEN 40
70 PRINT:PRINT
72 INPUT"Infinite time (Y/N)?",t$
74 t$=UPPER$(t$)
76 IF t$="Y" then it=1 ELSE IF t$="N"
THEN it=0 ELSE GOTO 70
80 PRINT:PRINT
82 INPUT"Infinite jumps (Y/N)?",t$
84 t$=UPPER$(t$)
86 IF t$="Y" THEN ij=1 ELSE IF t$="N"
THEN ij=0 ELSE GOTO 80
90 POKE &4000,64*track+sprite
100 MODE 2
110 PRINT"Put Trailblazer disk in drive
A then hit a key"
112 WHILE INKEY$="" :WEND
120 x=&4001
130 IF it=1 THEN RESTORE 180:GOSUB 170
140 IF ij=1 THEN RESTORE 190:GOSUB 170
150 RESTORE 200:GOSUB 170
```

```
160 x=&8000:RESTORE 210
165 GOSUB 170:CALL &8000
170 READ a$
175 IF a$<>"xx" THEN POKE
x,VAL("&" +a$):x=x+1:GOTO 170 ELSE
RETURN
180 DATA 21,00,00,22,2f,22,xx
190 DATA 3e,00,32,50,23,xx
200 DATA c3,00,04,xx
210 DATA 21,00,40,11,20,03,01,00,
01,ed,b0
220 DATA 21,2f,80,3e,84,77,cd,d4,
bc,79,32
230 DATA 31,80,22,2f,80,21,00,01,
11,00,00
240 DATA 0e,41,df,2f,80,21,21,03,
22,82,01
250 DATA c3,00,01,xx
```

DOOMDARK'S REVENGE

Tony Hoyle has completed a challenge and given you control over all 128 characters in the game. Use Method 1. When you select a character in the game you'll have all 128 to choose from. And it will never go dark - an infinite daylight poke.

```
1 'Doomdark's Revenge
2 'The Amstrad User Mar 87
10 MEMORY &17FF
15 LOAD"ddr1",&1800
20 POKE &1859,0
25 POKE &185A,&BE
30 x=&BE00
40 READ a$
45 IF a$<>"xx" THEN POKE
x,VAL("&" +a$):x=x+1:GOTO 80
50 CALL &1800
60 DATA 3e,00,32,06,9b,21
70 DATA 1f,3e,22,9b,91,3e
80 DATA c9,32,9d,91,c3,50
90 DATA 82,xx
```

Send your "cheats" and
tips to:
Cheat Mode
The Amstrad User, Suite 1
245 Springvale Road
Glen Waverley, Vic. 3150

CHEAT CHEATER

A shuffling exercise with Tasword 6128 and CP/M Plus

from J.L. Elkhorne

So, after maintaining for a long time that home computers are also useful, the axiom got put to the test. My wife, who is a teacher-librarian, grumbled that she thought she would have to do five versions of a "fill-in-the-blanks" test to preclude copying. "Child's play for a computer," I commented glibly. In a trice, she handed me the handwritten master list of questions to process.

Turning aside from alien zapping (what's your rating on Elite?) I considered the best way to get the job done quickly on the Sunday evening.

The hardware: Amstrad 6128, Star dot-matrix utility printer, and Seiko Silver-Reed EX43 electronic typewriter for finished copy. The software: Tasword 6128, CP/M Plus, and a hastily knocked-together BASIC shuffler.

She had already worked out the sequences for the five different versions of the test. Only afterwards, when I thought about this project, did I decide to improve on that technique.

Since time was of the essence, I did not have the opportunity to create optimum routines. Since I knew I wanted to shuffle the order of a set of master questions it seemed easier to create the master question file using CP/M's ED – one question to a line. (Starting out with a Tasword file is NOT the way to do it! If you try that, and then inspect the file using ED, you will find that each Tasword line is an ED line. A question of more than one Tasword line would hence get split in the shuffling process.)

The only limitation with this approach is the 128 character maximum line length of Tasword. Exceed that, and you will have a small problem. Fortunately, it only happened once for me. I was able to recreate the offending question, from the utility printout of the master list.

So, then – the entire process is as follows:-

1. Go to CP/M; use ED to create "master" file.
2. Return to BASIC; use the Shuffle program to create the multiple versions wanted.
3. Run Tasword, using the Ctrl-U hard rejustify to fit the questions into sensible format. I normally use 64-character lines.

I added the appropriate question numbering as each version was re-justified, and also double spacing between questions. Later, I worked out a way to double-space the version files using ED. At the time, it seemed easier to get the job done with some manual donkey-work.

It would be possible to use the block commands of Tasword to re-order a question set, but would entail many keystrokes and a lot of time waiting for Tasword to do its thing. In the case at hand, there were 42 questions.

The reader would also surmise that the entire job could be done in the BASIC environment. True, but the nice thing about programming is that there is not only one path to a goal. In this instance, two of the three tools I needed already existed. The shuffler took about 10 minutes to create.

Double-spacing the question sets using ED is done as follows: get into ED, create one empty line and save with the 1X command. This creates a library file. Then append the specific file you wish to process. Enter the following line and it is done:

```
BnM1LR[Control]Z[return]
```

That probably deserves some explanation. B puts the character pointer at the top of file; n (in my case, 42) is the number of lines to be handled; M is the macro command, and will repeat the next commands n times.

1L steps down one line from the first line; R reads the library file (an empty line, containing only a return) and writes it to the current character pointer position; Control Z terminates this edit.

Return then goes back to repeat the process until all the M's are done. It is like a FOR-NEXT loop.

As my wife had provided the question sequence lists, I used DATA statements in Shuffle. It might be easier overall to utilise random generation of the sets and both techniques are catered for in the program listing.

One final point – I used the Tasword footer option to put an appropriate identifier on each of the versions.

```

1  '** SHUFFLE **
2  'The Amstrad User Mar 87
3  'J.L. Elkhorne
10 'Shuffling Questions
11 '
20 DATA 5,10,15,20,25,30,35,40,6,11,16,2
1,26,31,36,41,7,12,17,22,27,32,37,42,8,1
3,18,23,28,33,38,1,9,14,19,24,29,34,39,2
,3,4
30 '
40 MODE 1:PEN 1:INK 2,9,6
99 :
100 CLS:LOCATE 16,1:PRINT"SHUFFLE":PRINT
:PRINT
110 PRINT"Do you want:":PRINT
120 PRINT"1. Random ordering"
130 PRINT"2. Data statement"
140 PRINT:PEN 2:INPUT p
150 CLS:PEN 1:ON p GOTO 200,300
160 IF p>2 THEN 100
199 :
200 PRINT"this is random":PRINT
210 INPUT "How many times";it
220 DIM r(it),a(it)
230 FOR i=1 TO it:a(i)=i:NEXT i
240 FOR j=1 TO it
250 r=INT(RND*it)+1
260 IF a(r)=0 THEN 250
270 r(j)=r:a(r)=0
280 NEXT j
290 ran=-1:GOTO 2000
299 :
300 PRINT"This is data -":PRINT
310 PRINT"Have you entered your DATA sta
tement at Line 20? (y/n)":PRINT
320 PEN 2:INPUT p$:PEN 1
330 IF p$<>"y" THEN PRINT "Do so now and
then goto 1000":STOP
999 :
1000 CLS:INPUT "How many times";it:PRINT
1010 FOR j=1 TO it:READ d:num=d+num:total
=total+j:NEXT j:RESTORE
1020 IF num<>total THEN PRINT "Your data
statement is wrong, dummy!":STOP
1999 :

```

```

2000 REM get master file
2010 DIM a$(it)
2020 OPENIN "master"
2030 FOR i=1 TO it
2040 LINE INPUT #9,a$(i)
2050 PRINT a$(i)
2060 NEXT i
2070 CLOSEIN
2080 :
3000 CLS:INPUT "Enter number for this ve
rsion";n$:PRINT
3010 IF LEN(n$)=1 THEN file$="version"+n
$ ELSE 3000
3020 CLS:CAT:PRINT
3030 p$="":PRINT"Enter y to confirm ";:P
EN 2:PRINT file$;
3040 PEN 1:INPUT" to disc";p$
3050 IF p$<>"y" THEN STOP
3099 :
3100 OPENOUT file$
3110 FOR i=1 TO it
3120 IF NOT ran THEN READ d:PRINT #9,a$(
d)
3130 IF ran THEN PRINT #9,a$(r(i))
3140 NEXT i
3150 CLOSEOUT
3160 :
9999 END

```

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 available containing
 the programs
 appearing in Issues
 21 to 24 inclusive -
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See Page 63 for more details.

<p> To get your name in our "HALL OF FAME" (see page 61) register on the form below, or a copy, and if possible, send a photo of the screen.</p> <p>Name _____</p> <p>Address _____</p> <p style="text-align: center;">Telephone Number _____</p> <p>Game _____ Score _____</p> <p>Achieved (date) _____ Game lasted (mins) _____</p> <p>Signed _____</p>	<p>THIS NEXT PART MUST BE COMPLETED</p> <p>Witness' Name _____</p> <p>Address _____</p> <p style="text-align: center;">Telephone Number _____</p> <p>Occupation _____</p> <p>I confirm that the above claimed score is accurate and genuine</p> <p>Signed _____</p> <p style="text-align: center;">Post this form along with your tips for playing the game to: Amstrad Achievers, The Amstrad User, Suite 1, 245 Springvale Road, Glen Waverley, Vic 3150</p>
--	---

Educational Software

We have looked at Amstrad software in Issue 23 which was meant to educate pre-schoolers. We look at some more plus move up to some of the packages available for older age groups. The scene has improved a bit.

CAESAR'S TRAVELS - Mirrorsoft

Educational software for the Amstrad computer range is scarce, and what is available is very substandard. *Caesar's Travels* is one of those rare exceptions, being well packaged and presented - it looks and feels as professionally done as today's entertainment software.

Caesar's Travels comes in the form of a book written by James Mercer. Aimed at an age range of 3 to 9, it suits both pre-readers (obviously accompanied with an adult) and early readers. The computer cassette contains an abbreviated form of the story, but with the added advantage of animated action.

Poor old Caesar has been kicked out into the streets for not doing his job properly: catching mice. You take on the role of this miserable cat. Via the keyboard input that

you supply, different outcomes to the story may occur. The idea is that you find a new home for yourself. Naturally you have many adventures along the way - it's not all a bed of catnips.

Only eight keys are involved. This is an excellent idea, as it will not confuse and thus put off any youngsters. The number keys from 1 to 6 are used to instruct Caesar to perform certain actions. For example, pressing 1 will cause Caesar to run and pressing 3 will make the cat jump.

Two other keys are Enter and the spacebar. Enter is needed when answering certain questions that crop up from time to time. For example, a number of objects may appear on the screen - in one case nine sausages appeared. You must count them up, then press the correct number key (9 in this case), followed by Enter. The spacebar is used to continue or start a new game.

To make things easier for a child, all the keys and their associated use are printed on a card which can easily be placed on the keyboard.

The game itself is very good, the text appearing at the top of the screen while Caesar cavorts amid relevant scenery at the bottom. Once you have instructed Caesar what course he should take, he carries out his actions graphically before the next section of text pops up.

Overall, this is an excellent way to

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	913 BRIDGE IT

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Tel (02) 977 4697 for details, or turn to page 37

introduce toddlers to reading. They can see their words enacted on screen, and we all know a picture is worth a thousand words. The text appears on screen line by line, at a pace a youngster can handle. Tunes are played at various stages in the game, adding to the atmosphere and overall enjoyment.

PLAYSCHOOL - School Software

Play School, for the three-plus age group, consists of a selection of tiny games. Some are of educational use, others - well, they just pass the time of day.

When you first run the program, a few instructions appear on the screen, telling you which keys you can press, and what they do. Write them down or remember them, as no reference is made to the keys further on in the program.

You are then asked to press P to play the game. At this stage, pressing Shift-Q will set the level of difficulty. Alternatively, P will take you off to a party, where after several seconds gazing at a less-than-mouthwatering graphical cake, you are introduced to Superkid, the question master. He promptly asks for your name - you type in your name and press Enter.

On completion of all the introductory messages, you get a menu with six options. These range from simple addition problems to trying your hand at drawing. The first option is 'Counting'. A large box is drawn on screen and a number of objects appear inside. You must count them up and enter the correct number.

Superkid is watching you throughout your ordeal - his eyes occasionally blink - but for the most part, he is cold and stony. He shows either displeasure (when answering wrong) in the form of turning his mouth down, or admiration (of correct answers) by grinning broadly.

You are given three chances to answer a question correctly. After a third failure the answer is displayed and the next question in a sequence of three is displayed. A correct answer merits a point in your favour; incorrect and it's face down.

After answering the three questions, either Whizkid will choose which set of questions you will try next or you will get to choose again (this seems to be at random).

Moving down the table of choices, we come to 'Find It'. A letter or number is displayed on the screen, and the child then has to search for it. This is a good way to teach children how to associate one thing with another.

The next option, 'Paint Box', is rather a limited drawing utility. Only one colour is allowed on screen (the child can choose this colour). Movement is via the cursor keys, so I'm afraid that you are restricted to straight lines (or crooked ones at least). It may hold children's interest for a while, but when they wish to improve on their designs, they will be stuck.

Item four is 'Match Up'. Six odd-looking patterns are drawn on the screen; a further one is drawn apart from the previous six.

The child is to match the seventh object with one of the other six.

The next item is not one of the smoothest, fastest arcade-action games available on any home micro. You control a Pacman lookalike, whose sole task is to eat any stationary objects in its path.

The last but by no means least of these options is 'How Much'. This sets a fairly reasonable little addition test for your primary-school kid. A box with a number of items appears; you must type the correct number as with 'Counting'. Then another box is drawn with objects inside. Do the same action as before. Then you must add the objects from both boxes together and type this total.

On the whole, this is a well-presented package, with some nice touches, especially Superkid with his flicking eyelids and mouth movements. The options available will no doubt prove valuable teaching aids for the youngsters, and more importantly, keep them interested.

PHYSICS - School Software

Physics, like its counterpart *Chemistry*, has one thing basically incorrect with the packaging, or rather the information displayed. It is not up to HSC standard. Maybe 12 to 14-year-olds will appreciate this but not 16-year-olds - that is, if they wish to pass. Apart from that, slightly more effort has gone into *Physics*; the questions are not as ambiguous, not quite as many spelling errors, and it actually accepts my answers (if they are correct, of course).

Physics has a nine-option menu to choose from. Each option has a notes section as with *Chemistry*. They are, however, slightly more substantial. If you don't wish to read the notes, you can go straight into the question section.

There is a nice surprise awaiting those that opt for one of the sets of questions. Included with many of the questions are small diagrams related to the subject - it makes all the difference. The style of answering and marking questions is identical to those from *Chemistry*.

Again, once all the questions have been answered, there is nothing more to be gained from the package. It would have been quite simple to include extra questions that could be loaded up whenever required. In that way, the user would acquire a much broader knowledge of the topic at hand. What would have been nice was a graph showing how well you had done after answering the questions from all the topics, possibly giving you an average mark at the same instant.

Slowly but surely the educational market is coming to its senses.

CHEMISTRY - School Software

Hooray - at last someone has come up with a chemistry program aimed at 12 to 16-year-olds. That was my initial reaction. My enthusiasm was soon dampened, however, as it became clear that the program had a long way to go before reaching HSC standard.

On loading, you are presented with a menu

offering a skeleton selection of the actual chemistry course. If the packaging had said 12 to 14-year-olds, I would have agreed, but there is no conceivable way that prospective HSC candidates can even consider passing with this. Apart from that, there is a very good idea here.

Selecting one of the topics gives you the choice to either read a few notes on the subject or alternatively jump straight into the questions.

The notes are short and sweet. They cover the questions you are about to answer but go no further. For that, you will have to consult the numerous textbooks.

The question section has a wonderfully executed area, but there are many spelling errors. On occasions my answers were rejected. I presumed either I had got them wrong or my spelling was incorrect. But then the program would spew out its version of the correct answer - exactly what I had typed in!

There are ten questions to each section; you are given two chances to answer each one. If you enter the incorrect answer first time, you are given a small clue (which is generally small enough to enable you to attain the answer). A correct answer earns you 10% - if on the second attempt you manage to get it right, you are awarded 5%. At the end of the 10 questions, your overall percentage mark is shown; depending on the mark achieved, you will get the message 'very good', 'good', or 'poor but will do better next time'. Obviously you'll do better next time - the questions remain the same. This idea has the making of a good educational package. Unfortunately, on the Amstrad at least, this product is still in its early days; consequently it has several bugs, and could be further enhanced with more questions, a more comprehensive notes section and a general tidy-up. Still I must not complain too bitterly as there are so few of these educational programs around.

Note: One source of Educational software is Pacronics (02 734879) or their outlets as advertised on Page 5 of the January 1987 issue of *The Amstrad User*.

At the time of going to press, we have not been able to determine whether the software which has been reviewed so far is generally available, but we believe the *School Software* titles are.

Magic Maths is available on mail order through *The Amstrad User* and is suitable for 3 to 9 year olds by being set at any one of 10 levels of difficulty.

NOTICE

The Amstrad User Club or The Australian Amstrad Professional User Club, both of Manly in NSW, are not connected in any way with this publication.

DREAM MACHINE

Everything you want to know about the AMSTRAD PC 1512

Launched only a few months ago and first reviewed in the November 1986 issue of *The Amstrad User*, the Amstrad PC1512 has already made considerable waves in the computer industry. Software houses are slashing their prices while hardware manufacturers quickly rethink their marketing strategies - and the machine has only just gone on sale in any quantity. In many ways this is typical of Alan Sugar. He has a history of offering what appears to be incredible value for money - first in hi-fi and then in computers. In particular, the PCW range of word processors brought computer power to a whole range of people who could not have justified the cost of existing models.

At first sight the Amstrad PC does not look so revolutionary: after all, the base model is almost the same price as a PCW 8256 but doesn't include a printer. However, setting aside the higher power for a moment, the main selling point of the Amstrad is that it is compatible with IBM's own PC, and is the cheapest compatible on the market by a large margin.

Being compatible with the IBM gives a micro a huge advantage. The IBM PC is the nearest thing in this market to an 'industry standard' - which means that literally thousands of software packages and hardware add-ons are available for the Amstrad PC from Day One. It also means that Amstrad owners can take advantage of the support industry that has grown around IBM's PC: maintenance engineers, training specialists and programmers, for example, are already familiar with your machine. The Amstrad PC is guaranteed support from the moment you buy it.

BUT SHOULD YOU BUY ONE?

Of course you can only really answer that question yourself, but hopefully we can help you. The question really divides into two parts: first of all, do you need a computer at all? And secondly: if so, should it be the Amstrad PC?

The important thing is what you need a computer for - for work, for pleasure or for its own sake. As the following pages will show, the Amstrad PC is capable of fulfilling all these needs, and as an IBM PC-compatible is ideal for most purposes. The only proviso would be if you are really only interested in games, in which case a cheaper home computer might be more suitable - the Amstrad PC could be regarded as a little over the top for *Space Invaders*.

Having decided that you do need a

computer, and that a PC-compatible might be a good idea - and affordable at Amstrad's prices - then another set of tests need to be applied:

- How compatible is it?
- How reliable is it?
- How powerful is it?
- Is it easy to use?
- What sort of support will I get if things go wrong?
- Will I understand the manual?
- How does it compare with the competition?

We aim to answer all these questions, and more.

But first the specifications. Technical specifications are dangerous things, but unfortunately anyone buying anything technical these days - from washing machines to cameras - ends up comparing the specs (even if they don't understand them). So let's look at what the Amstrad PC's specs actually tell us.

THE TECHNICAL BIT

The heart of the Amstrad PC1512 is the 8MHz 8086 processor. This means that the PC uses an Intel 8086 processor driven at a clock rate of 8MHz, or eight million pulses per second.

The Intel 8086 is not the most advanced processor around, but is probably to be found at the heart of more computer systems than any other. It was the first truly 16-bit processor, in the sense that it handles data in 16-bit chunks both internally and externally. It is the big brother to the 8088, the processor used by the IBM PC; which deals with data in 16-bits internally but has only an 8-bit data bus for handling memory and other peripherals. It is also possible to run the 8086 at clock speeds up to 8MHz, rather than the 4.77MHz used by the IBM, which means that the Amstrad can process data

ASCII CODE

The ASCII code (standing for American Standard Code for Information Interchange) was introduced in 1963 and has become an (almost) universal code for the translation of binary code to alphanumeric characters. It is a seven-bit code, allowing for 128 different characters. The first 32 codes (including zero) are used for the control of the terminal. Important codes here include 12, meaning carriage return, and 27 for Escape - frequently used for the control of printers. The remaining codes are used for the alphabet (upper and lower-case), numerals and punctuation marks. The IBM PC and so the Amstrad too, makes use of an eight-bit code, giving 256 characters in all. IBM ASCII codes 128 to 175 are used to display a variety of international characters and graphic symbols, including umlauts, acutes and the other oddities to be found around the world. It also includes the symbols for a half and a quarter (as well as the inverted question and exclamation mark), which is very useful. ASCII codes above 275 are used for block graphic symbols.

CENTRONICS AND RS232 INTERFACES

The PC1512 comes with both as standard - items that are optional extras on many compatibles. The Centronic is the standard parallel interface for communicating with the outside world, and is the usual connection to use for a printer. It is a 25-pin female D-type connector, needing standard PC cables.

The RS232 port is the same, but a male socket this time. RS232 is the standard serial interface, used mainly for communication between computers, but also for some printers. While Centronics is only able to send data out from the PC; the RS232 can receive as well. The PC's RS232 port can be set to speeds from 110 baud up to 9600 baud; with seven or eight data bits, one, 1.5 or two stop bits and hardware handshaking on or off. It uses a standard 8250 chip as found in many compatibles, for those who want to know such things.

considerably faster.

There are more powerful chips around, such as the Motorola 68000 used by the Apple Macintosh and Atari's ST range; and Intel's 80286 which is to be found in IBM's more recent AT. These have 16-bit data busses, like the 8086, but operate with a 32-bit architecture internally. The PCW 8256 has a Z80 processor which deals eight bits both ways, and uses the older CP/M operating system.

It is important to remember that, like the brake horse power of a car, processor type and speed is a crude measurement of computer power. The actual speed at which a computer operates depends largely on other aspects such as the speed of the disc drives and the cleverness of the computer programmers - so don't attach too much importance to this specification. The important thing is that the Amstrad PC uses the same processor and clock rate as a number of other PC-compatibles, including the successful Olivetti range. If it is still not fast enough for you there is space on the motherboard for an 8087 Maths co-processor. This is a separate processor that carries out the mathematical stuff, leaving the main processor to get on with running the computer.

THANKS FOR THE MEMORY

The Amstrad PC comes with 512K memory in all configurations, from the cheapest model up to the top-flight hard disc colour option. This is what is known as RAM (Random Access Memory), and is used for the temporary storage of programs and data files read from the discs. It is not used for permanent storage as its contents are lost when you turn the power off.

512K sounds like a lot of space to play with, but RAM is also taken up by the operating system, and by GEM Desktop if it is left resident in memory. Nevertheless, 512K is quite enough to run virtually every application program written for the IBM PC, and the Amstrad can be expanded to the maximum 640K that MS-DOS can handle. The extra chips go into the motherboard too, so this expansion does not take up one of your precious slots.

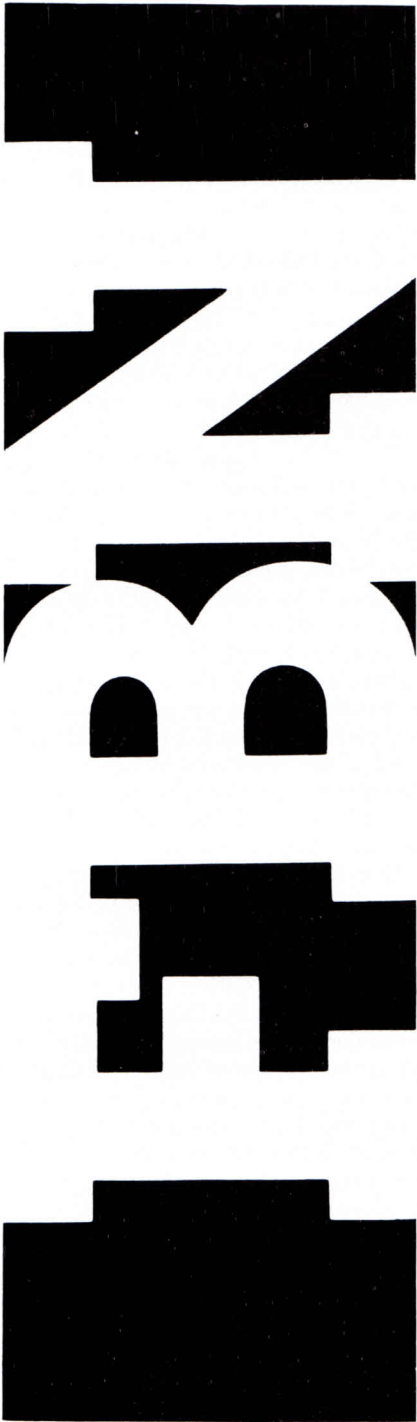
In addition to this is a small area of

memory, only about 50 bytes, that is permanently powered by four AA-sized batteries - called the Battery-backed RAM. This is used to hold the data and time, various parameters about the mouse, joystick and serial interfaces, and the amount of RAM that is set aside as a 'RAM disc'. This is a portion of RAM that is partitioned off to be used as though it is a disc drive. As such it is exceptionally fast, but all data is lost when the power is turned off. If you are operating under the GEM Desktop system the maximum size of your RAM disc is limited to 34K - but if you are prepared to forsake GEM then the RAM disc can be as large as your application program can stand. This battery-backed RAM is unique among PC-compatibles, and very useful indeed. As the Amstrad also features a Real-time clock and calendar it also means the machine always knows the date and time without you having to reset it, whenever you turn it on. The clock is quartz-locked, and so should be very accurate.

In terms of storage the Amstrad PC offers several options. On the basic level you can choose to have one or two 360K 5.25" floppy disc drives. These are the standard format, compatible in every way with those of the IBM PC. 360K is enough to store approximately 50,000 English words on each side of a disc, which is something like the number of words in this magazine. In practice though you would probably allow space for the operating system and perhaps an application program too, so the capacity would be lower. They are not theoretically as reliable as three or 3.5 inch discs as the surface is not as well protected - but this is not really a problem and they are a lot cheaper and easier to find.

The more expensive models in the range, the HD10 and HD20, come with built-in 10 or 20 Megabyte hard disc as well as a single floppy drive. These offer storage capacity equivalent to 30 or 60 times that of the humble floppy disc, and much faster access to your program and data files. Hard discs are very delicate creatures and have to be very reliable - after all they are storing an awful lot of your precious data. Hard disc versions of the Amstrad PC are not available yet,

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GRAPHIC COMPATIBILITY

The Amstrad PC's display operates in several modes, both alphanumeric and graphic.

- 40 x 25 characters in 16 colours
- 80 x 25 characters in 16 colours
- 320 x 200 pixels in four colours
- 640 x 200 pixels in two colours
- 640 x 200 pixels in 16 colours

The four colour high resolution mode takes its colours from any of three 'palettes'. The palettes are the same as those of IBM's CGA.

All except the 16 colour high resolution mode are compatible with IBM's standard CGA (Colour Graphics Adaptor). The final mode is simply an extension of the two colour mode, and was included so that GEM applications could run in full colour. This mode is not compatible with the equivalent mode of IBM's EGA (Enhanced Graphics Adaptor). Both the top two modes use up 64K of memory for the display.

Rumour has it that an EGA card, with its highest resolution of 640x350 pixels, cannot be used in the Amstrad PC because it senses the presence of a 'CGA', and because of the higher clock speed. However we have heard that with some clever jiggerypokery it can be made to work - should you want it. A Hercules graphics card is supposed to be OK but, like the EGA, would not be able to drive the Amstrad's monitor. A Hercules colour card is also rumoured to work, but again you would need another monitor. As the power supply for the Amstrad PC is in its monitor this could pose problems, although some corporate suppliers in the UK are selling the PC1512 without monitor, presumably for this purpose. The amount of software that requires an EGA or Hercules card is limited and specialised these days; and will probably be converted for use with the Amstrad's own graphic modes if the demand is there. The only area that might be affected is Computer Aided Design, which would probably need more expensive equipment in any case.

The five modes of the Amstrad PC are all available whether you have a colour or a mono monitor. If you are using a monochrome model then the 16 colour modes are displayed as 16 levels of grey - not so colourful but very handy. The monochrome monitor display is paper-white rather than the usual green, and as such is somewhat easier on the eye.

so we are unable to test them at this stage. You can always upgrade to a hard disc model at a later date (though this costs more), or indeed add one of the many third-party hard disc cards available for PC-compatibles; so we would advise you to check before ordering an HD10 or HD20 at the moment. The 20M hard-disc card from Tandon works with the PC1512, as does the DataLife Databank plug-in 20mb card from Verbatim Australia. So there are options available now.

One of the things that made the IBM PC stand out in the early days was the provision of **expansion slots**. These are connectors mounted on the main circuit board that enable you to plug in extra circuitry for specialised purposes, and make the IBM standard very flexible. The trouble with the IBM PC was that very little was provided as standard: you had to add expansion boards for interfaces, graphics, colour and even disc drives.

The Amstrad PC comes with only three slots, which at first sight seems a little stingy in comparison to many compatibles available, until you realise that virtually everything you need is built in already. A second RS232 port could be added (as COM2), together with a networking board, and you would still have one slot free for something more esoteric. You could even plug in a hard-disc card - a nifty board that includes a full hard disc system which can be removed and plugged in to another PC for really portable data. The Amstrad's power supply is able to accommodate most such cards.

One notable aspect of the Amstrad's expansion slots is how easy they are to get at. This is a by-product of having the power supply in the monitor and not in the main unit itself, as British safety standards are then not so stringent.

SOFTWARE

The Amstrad PC comes with four 5.25" discs, providing you with all you need to run the MS-DOS or DOS PLUS operating systems, GEM *Desktop* and *Paint*, and Locomotive's *BASIC 2*. The GEM environment was explained in Issue 24 of *The Amstrad User*.

All the GEM-based products, including *BASIC 2* and other third-

party products, use the high resolution 640x200 in 16 colour mode of the PC. GEM's system files handle this non-standard display mode, and ensure that any software using the GEM system take full advantage of the display capabilities.

The Amstrad is unique in that it comes with not one but two disc operating systems - Microsoft's MS-DOS and DOS PLUS from Digital Research. Just how useful that is is open to question. The GEM operating system runs under DOS PLUS, but fortunately DOS PLUS is compatible with MS-DOS. Just how compatible is another matter.

The MS-DOS supplied is version 3.2, and it is this that ensures compatibility with the IBM PC, as it is very similar to IBM's own PC-DOS. It is supplied configured to make use of the function keys, making it very easy to edit your MS-DOS command lines on screen. It also comes with the horrendous text editor EDLIN, as do most versions, but Amstrad also supply RPED. This, like EDLIN, is not a full blown word processor but a simple text editor suitable for writing batch files and the like - and it's considerably easier to use.

DOS PLUS is a Digital Research's answer to Microsoft's successful MS-DOS (which stands for MicroSoft Disc Operating System). It looks on screen much like MS-DOS but is not as compatible with PC-DOS; it does however have the benefit of allowing you to run programs written for CP/M-86, though there are not many programs that use this operating system as MS-DOS rather rules the roost as far as 16-bit machines are concerned.

One feature that DOS PLUS offers which is not available under MS-DOS is the ability to run up to three background tasks in addition to the main 'foreground' program. There are two back-ground programs supplied with the Amstrad: *PRINT* and *ALARM*. *PRINT* allows you to set up a list of up to 32 files to be printed out in succession while you carry on with your main program; *ALARM* lets you enter up to 32 messages, to 40 characters in length, that are to be displayed on the status line at present times.

Another useful feature is the DOS

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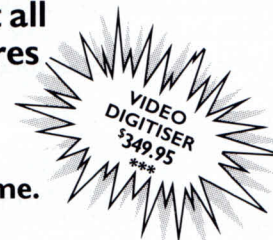
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ERIC BAGSHAW'S BENCHMARKS

These tests were designed several years ago by Eric Bagshaw of the NCC (National Computer Centre in the UK) for the purpose of providing a standard yardstick for comparing the speed of micro computers. They consist of 13 short programs, written in IBM BASIC, that are each automatically run several thousand times over, and the time taken measured with a stop watch. The tests are complicated because they are designed to provide separate measurements of processor and disc drive speed, when in practice most operations depend on both. The Benchmarks have become a standard of sorts, though there is much debate as to their overall meaning. They do not measure every aspect of a computer's operation, but in general, machines that appear fast do measure fast, so they do provide a fairly accurate measurement of overall speed. In practice though the apparent speed of an application program is more dependent on the efficiency of the programmer's code than any other factor.

JOYSTICK

On the left-hand side of the back of the keyboard is a nine-way D-connector that takes any standard joystick (told you it wasn't just a business machine!). Like the mouse, the characters sent by the joystick to the PC can be changed to suit the game you're running, and these values can be held permanently.

KEYBOARD

This sports 85 keys, and looks very similar to the IBM keyboard. It includes ten function keys which, again like the IBM, are arranged in two columns of five. This is a bonus as many PC-compatibles lay the function keys out in one row along the top of the keyboard - causing problems with the keyboard overlays that come with some PC software.

Both the [Numlock] and the [Capslock] keys have indicator lights showing when they are selected, and the keyboard features a couple of extra keys not found on the IBM PC. These are the [DEL→] key for deleting to the right (useful for word processing), and an extra [ENTER] key on the numeric keypad.

One nice feature is the ability to generate any ASCII character on screen by simply holding down the [ALT] key and tapping out the ASCII code on the numeric keypad - handy for the odd umlaut.

PLUS status line, which uses the bottom line of the screen to tell you which programs are running, the nationality of the character set, the printer selected, whether [CapsLock] and [Numlock] are on or off, and the time. You can choose between seven or eight-bit, UK or US keyboards, or design your own using a special DOS PLUS program called simply N. Finally, DOS PLUS includes a VT52 Terminal Emulator to give your display the same characteristics as that of the IBM PC.

COMPATIBILITY

All this technical stuff is very nice, but the important question is how compatible the beast is with IBM's own PC.

Graphic compatibility is covered in one of the panel-pieces in this article; suffice it to say that the only problem will be with the EGA card, though we have not been able to test any graphic cards with the PC as yet. Much the same goes for hard-disc cards, memory boards, modem cards and all the other weird and wonderful things that people plug in to their PCs.

We understand that the Amstrad is pretty compatible as far as expansion goes, and will take most hard-disc cards for example, but we have yet to test the claims. One possible limitation is that the Amstrad's expansion slots are eight-bit only, and do not cater for the faster 16-bit cards that can be used with the Olivetti M24 and the IBM AT.

On the software front we tested the PC1512 with a variety of packages written for the IBM PC - including PC-DOS, the IBM's own operating system. The Amstrad ran PC-DOS without problem, and the conventional MS-DOS version 3.2 operating system. We also tried running *IBM Diagnostics*, a specialised program designed for isolating problems with IBM PC hardware and software.

Diagnostics recognised the hardware correctly, including the presence of CGA and the keys (except the two new ones) but produced error messages on commencement of the tests.

Diagnostics is a particularly exacting test for clones, so this does not mean the Amstrad is particularly incompatible.

On the applications side the Amstrad PC ran IBM versions of Microsoft's *Flight Simulator*, *Lotus 1-2-3 Version 2* and Borland's *Sidekick* without problems. *Sidekick* ran above 1-2-3 quite happily too. Overall it would appear that the PC1512 is pretty compatible as far as compatibles go.

HOW DOES IT FEEL?

For someone sitting down in front of an Amstrad PC for the first time - someone who is used to other compatibles that is - the first impression is of a comparatively small machine. Some compatibles, and indeed the IBM PC itself, are huge monsters that sit on your desk consuming the space around it. The Amstrad is not like that as the main unit is really quite dainty; the monitor is quite large but the overall 'footprint' is small measuring 372mm wide by 384mm deep.

It is not built like a tank (or an IBM for that matter) but is solidly built. Some people may find the keyboard a little spongy, but you can't please everyone. It is positive and certainly better than that of the PCW range. It is also a fairly small keyboard as clones go, not taking up more space than it needs.

The monitor screen measures 26.5 x 19.5 mm - and is a decent size to work with. The monochrome monitor, with its anti-glare black and white display, is very clear and I would be happy to work with it all day long. The colour display is not so clear, but is not bad. It is what is known in the trade as a 'medium resolution' display, probably with a dot pitch of 0.43mm.

It is certainly several magnitudes better than the average 'home' micro display, and is clear enough to read the text on a word processor without problem. However it might cause eye strain if you are intending to write 'War and Peace II'. If that is your aim we would suggest you went for the mono display unless you want to go cross-eyed playing games too. It is worth pointing out that the Amstrad's colour display is no worse than that of the IBM with a CGA and IBM's own colour monitor, so you're not getting a bad deal. It also tilts and swivels to get that perfect viewing angle.

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USING GEM

Digital Research's Graphic Environment Manager (GEM to you) is a sophisticated system for controlling your PC, and a lot prettier than MS-DOS. It is great for getting to know your computer, and indispensable when it comes to graphics packages such as *GEM Paint* or *Draw*, but it does have disadvantages.

For a start it takes up an awful lot of memory - a lot more than MS-DOS or DOS PLUS - which is why it can only cope with a 34K RAM disc. With MS-DOS or DOS PLUS you could probably have 256K, and certainly 128K with most applications. It is also a lot slower than a conventional operating system.

In its favour, GEM comes into its own on a hard disc system. The hard disc gives it speed and it's really handy for sorting out all those sub-directories.

THE MOUSE

This handy gadget allows you to control your PC without touching the keyboard. It plugs in to the left-hand side of the main unit, and works by means of clever circuitry that detects the movement of a roller-ball under the mouse which tells the PC which way you're rolling it.

This is a 'two-button' mouse. The important button used for 'clicking' and 'dragging', is the left-hand button - the right-hand button is the equivalent of the [SHIFT] key on the keyboard.

Initially the mouse seems very sensitive, but this can be adjusted, and the setting permanently recorded in the battery-packed RAM. You can also change the characters sent to the PC by either of the mouse buttons, so that they perform specific functions with particular software. Again, these can be permanently set.

EXPANSION SLOTS

Three expansion slots are provided, which are very easy to get at for a change. These allow you to slot in additional circuitry such as modems, hard disc cards or networking interfaces - and are supposed to take most boards suitable for the IBM.

Many compatibles come with a lot more, but you must remember that the Amstrad PC has most of the things you would want on the motherboard. There is no point plugging in most multi-function cards, memory expansion boards or things with built-in clock and calendar as you've already got them.

HOW DOES IT COMPARE?

Comparing the Amstrad PC with the competition is a little tricky, for not only does it compete with the better 'home' micros such as the Amstrad CPC6128, the Acorn range of BBC machines and Atari's ST models; it also bears comparison to the vast number of IBM PC 'clones' which range in price from some hundred to several thousand dollars, and of course with the IBM PC itself.

As we have already said, the PC1512 looks to be very compatible with the IBM, and is certainly considerably cheaper than any other compatible once you take in to consideration the amount of memory, the provision of both serial and centronics ports, full mono and colour graphics, and of course the bundled software. There are a few compatibles at comparable prices, but these do not offer anything like the same number of features.

Perhaps the nearest of these, at least in the UK, is the new Tandy 1000EX. This features a single 5.25" drive, a printer port, 256K of RAM and comes with mono graphics display for £499 + VAT or colour display at £549 + VAT. However, the package for release in Australia soon is likely to be around the \$1499 mark but will not include a monitor. On the software side it comes with Tandy's own *Personal Deskmate* software - a system rather like GEM - but does not have a serial port or mouse as standard. It also uses the less powerful Intel 8088 processor at 4.77MHz (same as the IBM) or at the faster speed of 7.216MHz.

In term of support the PC1512 is basically an IBM compatible so there are already a large number of third parties willing and able to offer services. The low cost of these machines, and of much of the software, means that support is going to cost extra, but there is a whole industry out there with plenty of experience of IBM compatibles waiting to help you - for a small fee.

SPEEDY PC

When it comes to comparisons with compatibles in general, the other aspect that favours the Amstrad is its overall speed. It certainly feels very fast - faster than most clones I have

ever used - but to get more authoritative figures we asked Bob Piper, who has probably tested more compatibles than you've had hot dinners, to run a series of tests designed to compare the speed of the machine with others. These indicated that the processor runs nearly two and a half times faster than the IBM PC, and around five percent faster than the high-speed Olivetti M24.

Although these differences will be large enough to be detectable in day-to-day use, of far more importance is the speed of the disc drives. As anyone familiar with a dual-floppy system will tell you, most of the time is spent waiting for the disc drives to catch up - not the processor. In this area the PC1512 proved to be over twice as fast as the IBM, the Compaq portable and the Olivetti 24, which puts it at the top of the PC performance league by quite a significant margin. It is not as fast as an IBM PC AT, of course, but then it doesn't cost nearly as much.

So as an IBM compatible it stacks up very well - nothing gets near it at the same price and it bears comparison with machines costing three or four times as much. But what about other non-compatible machines? The first comparison has to be with the other Amstrad models: the CPC6128, PCW8256 and 8512. These are cheaper - and the PCW range come with printer too - but offer nothing like the spec or speed. The PCW is a viable alternative if you are primarily concerned with word processing, and there are a variety of good accounting packages available for it as we have described over the past few months, but in both fields there are far more powerful packages around for the PC.

Acorn's new BBC range is another alternative, but this suffers on comparison of spec and price, and the range of software available.

TECHNOLOGY

If you want the latest in technology then there is always the Atari 520 or 1040ST. These models are more expensive but use the more powerful 68000 processor dealt with above. They also come with 512K of RAM, or one megabyte in the case of the 1040, and

with the GEM system in ROM. An attractive package - and you can add on such wonders as Transputers and 'blitters' should you have the urge. However, like any non-PC compatible, the Ataris cannot offer the range of software or anything like it.

It is all very well going for the latest in technology, but it does have its problems. The 68000 is a relatively new chip, and programmers have not had as long to play around with it as they have with PC technology. Software development takes place after hardware development, so a more advanced processor is lumbered with younger software tools. The older processor can take advantage of software tools that have stood the test of time.

The main thing against all these non-compatible alternatives is simply the vast range of software and support that is available to IBM compatibles, and to the Amstrad PC itself. And the software is tried and tested, by millions of PC owners throughout the world.

Whether you are running a business or want to get your hand on the latest programming languages - the PC offers the widest and best choice. Even large corporations are looking at the 1512 as a possible terminal to large mainframe systems. Alan Sugar has estimated sales of up to 800,000 PCs in the first twelve months.

THE BOTTOM LINE

The current market price is around:

PC1512SD + PCMM	\$1499.00
Mono screen/single drive	
PC1512SD + PCCM	\$1899.00
Colour screen/single drive	
PC1512DD + PCMM	\$1949.00
Mono screen/double drive	
PC1512DD + PCCM	\$2349.00
Colour screen/double drive	
Amstrad PC1512 Technical Reference Manual	\$49.50
Locomotive Basic 2 User Guide	\$39.95

PROCESSORS

The processor is the 'controller' of the computer, taking its instructions from programs stored in the computer's memory, and controlling the output to screen printer disc or whatever. Processors are very simple-minded beasts, really only capable of shifting data from one memory address to another and doing simple addition. Computers give the impression of being intelligent because the people who write the programs are, it is to be hoped, intelligent. Given long enough to work on a problem a computer will usually come up with the answer. Since a long time to a computer is a few millionths of a second - computers seem to be pretty smart.

SOFTWARE AND MANUALS

Your PC1512 comes with a reasonably comprehensive manual, which covers the machine itself, GEM, MS-DOS and DOS-PLUS in some depth - but BASIC 2 and GEM Paint fairly briefly. It is fairly well written as manuals go, and caters for the experienced user as well as the beginner. The more in-depth *Amstrad PC1512 Technical Reference* manual is now available in Australia along with *Locomotive BASIC 2 User Guide*. Also with your PC comes four 5 1/4-inch discs, providing you with MS-DOS, DOS-PLUS, GEM Desktop, GEM Paint and Locomotive's BASIC 2.

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TIP-OFFS

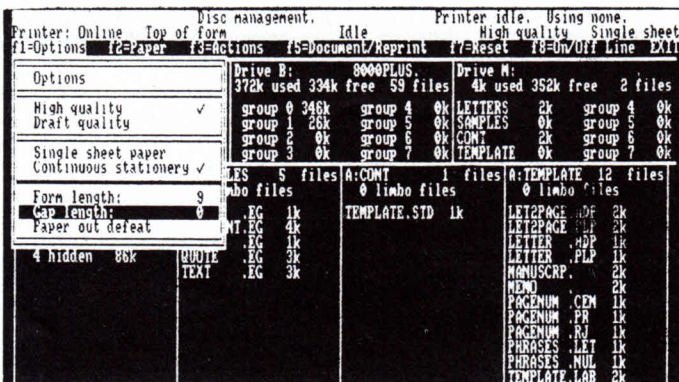
Continuing the lowdown on LocoScript, CP/M et al.

Welcome to more pages of tips which a Bookie wouldn't touch. With these tips, you're guaranteed a winner. Congratulations to Chris Lilley for his devious revelations about the MAIL232 program. What we can't understand is how he ever discovered it. We've been very impressed by the quality and range of tips that you are sending in, but disappointed with the number we have received to date. It's got to be a 'give and take' relationship - you give the tips and we take them - and pass them on to other PCW owners! Come on, let's all learn together and benefit from our pool of experiences.

Label printing

When using LocoScript for printing labels you'll probably find that a lot of experimentation is required before you find correct settings for the printer. With the labels that are sold by most companies you'll find that the sizes are different to

those that are recommended by Amstrad. For labels 3 1/2 by 1 7/16 inches on continuous stationery, you will need to set the following options before you print, by pressing [PTR] and using the 'f1 Options' menu:



Bypassing passwords

Remember that first week, reading all about CP/M and discovering you could set passwords on files? Now a month or two later, faced with a disc of files with read protection, you can't remember any passwords! There doesn't seem to be any way to circumvent the password system from inside CP/M without being a hacker, but there is a way to cope.

Start up LocoScript, and then put your CP/M disc with the protected files on it in the disc drive (and press [f1] to see its contents on the Disc Management screen). Now "Create" an empty file, select "Insert Text" from the [f7] menu, and choose the CP/M file that you need to unprotect. Finally, when you've finished the edit select "Make ASCII file" from the Disc Management screen to create a file that CP/M can make sense of. Voila. This method, of course, only works with text files. You can't use it on a .COM file, for instance.

Using (ALT) with keys

When you need to use an indent tab, for example, the manual tells you to press [ALT] and [TAB] together. Sometimes it seems to work, and the magic symbol appears on the screen. But more often than not, it doesn't work and

you are faced with the ordinary tab symbol on the screen.

However, there is a secret knack to doing this right every time. The trick is to press the [ALT] key first of all, and then while still holding it down press the [TAB] key too. It works like a charm every time.

This technique is correct for all [ALT] sequences. You use [ALT] in exactly the same way as you use the [SHIFT] key to get capital letters.

Non-standard printers from BASIC

If you have a special printer connected up to the Centronics parallel interface of the PCW, but you still want to use the standard printer for quick draft printing, you might be getting annoyed at the trouble it takes to switch between them.

If you are using LPRINT statements from BASIC, here's a way to quickly switch between the two different printers. Type in this listing to go on the end of your program (make sure the line numbers don't clash), and then the command GOSUB 40000 will direct all output to the standard printer, and GOSUB 40100 switches it to the Centronics interface printer. 40000 POKE 8796,&HEA 40010 POKE 8797,&HFD 40020 RETURN 40100 POKE 8796,&HDO 40110 POKE 8797,&HFE 40120 RETURN

STOP right there!

Many people don't realise that the [STOP] key in LocoScript can avert disaster, or at least mitigate its consequences. If you accidentally pressed [DOC] and can see yourself

in for a three hour wait as your life scrolls by your eyes, pressing [STOP] twice will cancel the operation. It is also useful if you press [CUT] at the wrong time and see your last day's work being excised - [STOP] will curb the damage.

The only thing [STOP] will not halt is the progress of exiting from a file, and certain other disc management operations like file copying.

Addressing labels without tears

A neat way to address labels and envelopes involves using the PASTE feature of LocoScript.

When you type a letter, of course you have the addressee's details somewhere in it. Before you finish editing it, position the cursor at the start of the name, and press [COPY]. Move to the end of the address, and make it into a Phrase by pressing [COPY] and a letter, like A. Now you can close the document and return to the Disc Management screen.

Now for the clever part. To print the address label, just go into direct printing (press D) and then do [PASTE] A (or whatever letter you chose instead of 'A'). This prints out the stored address very neatly.

Printing Multiple copies of a document

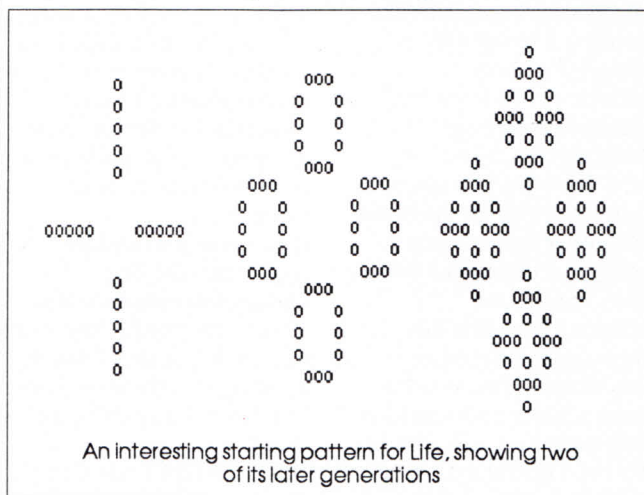
Many people are disappointed to discover that there are no facilities for LocoScript to print out several copies of the same letter or document. For instance, in organising church services you might want to circulate a number of people in the congregation, or provide the month's hymn lists for the

That's Life

It has become traditional to hide a game called "Life" in computer operating systems - Unix has one, as do many other large computer operating systems. The PCW has one hidden amongst its LocoScript files on side 1 of the systems disc.

First, an explanation of how to play Life. It was developed as a diversion by a group of mathematicians some years ago, and follows a few simple rules. Think of a colony of bacteria which breed and change as generations go by. The rules for breeding are simple: any bacterium with two or three neighbours stays alive in the next generation. If a bacterium has less than two neighbours, it dies of loneliness, and if more than three it dies of overcrowding. If any empty space on the screen has exactly three neighbours than a new bacterium is created in that space for the next generation. If you aren't sure how the number of neighbours is worked out, imagine a Noughts and Crosses game grid - the neighbours of a cell are the eight cells around the central one.

To "play" life, you set up an initial arrangement of cells (the



bacteria), then sit back and watch the generations pass.

The object is to find starting patterns which survive (some patterns become extinct after a few generations), and also which look pretty on the screen!

So how does the PCW do it? Life is cunningly hidden in the communications program called MAIL232.COM, which is on the LocoScript system disc. To run it, boot up CP/M, then put your LocoScript disc in the drive. Type MAIL232 [RETURN], wait for the screen to clear, and then press the [f3] key. Move the cursor bar to the last option on the menu that appears, "Transfer as ASCII" then hold down the [EXTRA] key and press P.

Now the screen goes totally blank apart from a cursor. Here's where you set up the initial bacterium pattern. Use the arrow keys to move the cursor, and press the [RETURN] key whenever you want to place a bacterium at the cursor position. Pressing [RETURN] again will delete the bacterium if you make a mistake. Once you're ready, press the space bar and the generations will roll by before your eyes. To stop the process, press space again.

choir. Here is one way to overcome the problem: When you have edited your text, make sure you put an "end page here" marker using the 'f6 Pages' menu. Then press [COPY] and make the entire document into a block in the normal way - make sure you include the end of page marker in the block. Suppose you called this block number 1, then to get another copy you would just press [PASTE] and then 1.

To get 10 copies, repeat this 9 times in quick succession, and then go away and do something else for a few minutes while LocoScript does its stuff. When you come back, you will find 10 identical pages in your document, and you can then print the whole document in one go using the 'Print all pages' option of the print command, and if you are using continuous stationery you can go away and have another cup of tea while it prints.

Do make sure your stationery is feeding properly before you depart, though, and that it has somewhere to go other than to roll itself around the printer roller! One final tip: if you are making up long documents with repeat pages in the way just described, it is best to store the document in the M drive. This way you avoid cluttering up your valuable floppy disc space with 20 copies of the same page.

Preventing word breaks

People who aren't very used to word processors may not understand the idea and use of "hard spaces". Since LocoScript automatically decides where the ends of lines are to occur, you may find that things like "Mr.

Smith" get unavoidably split, with the "Mr." at the end of one line and the "Smith" at the beginning of the next. The solution to this is to replace the gap between "Mr." and "Smith" by a hard space. This means that although it prints out as a space, LocoScript knows not to split the two words up, but to run the whole phrase on the next line.

To type the name so that it won't be split up by LocoScript, type the first word, then don't press the space bar but input a hard space instead. Do this either with the f5 key, or by pressing the [+] key and then the space bar. Finally, type the remainder of the phrase.

Programs that change the key layout

Programs like NewWord and WordStar alter the PCW keyboard to suit their own needs, which is very nice. Unfortunately, when you finish using these programs the keys are still set up for them which can make running something else afterwards impossible without resetting the machine entirely.

The way around this is to use the SETKEYS program to reset the keys to normal CP/M use. For example, following on from the New Word boot disc program published in Issue 24 Tip-Offs, create a file called "KEYS.CPM" containing the lines

```
14 N S "↑ "E#91 "↑_"
```

```
06 N S "↑F"
```

```
E#94 "↑F"
```

```
79 N S "↑↑"
```

```
E#96 "↑↑"
```

```
15 N S "↑A"
```

```
E#93 "↑A"
```

Then alter the PROFILE.SUB file so that it

automatically uses SETKEYS to reset the keyboard when you exit from NewWord, like this:

```
PIP
```

```
<M :=NW.COM
```

```
<M :=NW*.OVR
```

```
<
```

```
SETKEYS KEYS.WP
```

```
M:
```

```
NW
```

```
<LB
```

```
A:
```

```
SETKEYS KEYS.CPM
```

Now on leaving NewWord, other programs which expect the cursor keys to behave 'normally' will work correctly.

LocoScript alarm calls

As everyone knows, some of LocoScript's operations like scrolling through a file or exchanging every occurrence of a word for another one throughout a document can take a long time. Tea time, you say, and rush off as ever for the kettle.

LocoScript can be made to give you an alarm call when it has finished its labours. The trick is this: once you've finished giving LocoScript its instructions and it is going about its slow way, press a meaningless key like the # grid at the centre of the four cursor keys several times. When LocoScript finishes its work, it will see this meaningless instruction awaiting it and will beep long and loud in protest, once for every time you pressed the key.

For example, if saving a long file, press [EXIT],[ENTER] and then # several times: now you can go away, and the PCW will beep when it is ready for the next command.

Touch typing tip

Bona fide ten fingered touch typists might find the PCW keyboard rather flat. So to increase its slope, you can glue a couple of rubber feet

to its own usual pads. This raises the back of the keyboard by about half an inch, and makes touch typing much easier and faster.

Safe from prying eyes

How often have you written something to disc intending it to be printed out once and then discarded, and then realised that you would really like to get rid of it altogether? Perhaps for reasons of confidentiality you simply don't want anybody else to see it.

So what do you do? Simple, you ERASE it using f6 from the Disc Management screen. But of course you won't really have got rid of it, but you will have moved it to the "Limbo" section from where it can be easily recovered, perhaps to your embarrassment or worse.

Well, there is an answer.

Again from the Disc Management screen select 'f8 and press the [+] key over the "Limbo" option. Now the directory will show the Limbo files. If you had deleted a file called TOPSECRET.LET it will still be shown as TOPSECRET.LET on the directory, but will say "limbo" at its right. Place the cursor over that and 'f6 ERASE' it again, and it will have completely eliminated that file.

But be warned, use this facility with care and only erase files in this way if you are quite sure that you never want to see them again, because you won't.

Hey, Robin!

Now for a Batman tip: collect the Bag and Boots first, then the Thruster which is hiding behind a box. The Belt isn't then far away but you need to go back and find a bit of

"speed" to make a quick dash. One more hint, if you haven't yet realised it; the game takes place on seven or eight levels and you are not on the top one when you start!

More on Printing in SuperCalc

One of the annoying features of SuperCalc is that no matter how you set up the printer beforehand, the text always appears in draft quality. This was the subject of an article in last month's magazine.

The snag is that just before it starts printing, SuperCalc chooses draft quality to output in. A way around this is to give the print command from SuperCalc, and then just as it starts going press the [PTR] key and change to high quality print.

Although the first few characters will be in draft, the remainder of the output will be in high quality print. Because of this, it is handy to make sure that the first line of your spreadsheet is always blank to give you time to get to the [PTR] key.

TipOffs editor adds: This is a nice and easy solution, but there is a way to ensure that the print is in high quality from the word go, although it takes a bit more effort.

Before it starts printing SuperCalc resets the printer, which normally takes it back to draft mode. What you have to do is alter the printer's default setting to high quality, so that after a reset it goes back to NLQ mode.

Before you run SuperCalc, set the print to High Quality with the [PTR] key, and then use BASIC to send ESC d to the printer. Now SuperCalc will always print in High Qlty..

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11. Members receive brochures and pamphlets on any product for the cost of a Self Addressed and Stamped envelope.
12. Membership Fees for first year \$45 Thereafter \$25. Rental Library extra \$25 per year.

HEADERS and FOOTERS

Ben Taylor negotiates one of
Locoscript's trickier features

Most of the instructions in manuals and tutorials about LocoScript are aimed at producing simple letters of one page or so. However, LocoScript is capable of producing much more complex results, from esoteric professional documents to complete novels.

Once you progress beyond about two pages of text, it becomes important to make sure the page layout gives the document a consistent and attractive look - in particular, automatically numbering the pages is useful. This kind of thing is done using LocoScript's Headers, Footers and the Base Layout, and that's the area that we're looking at this month.

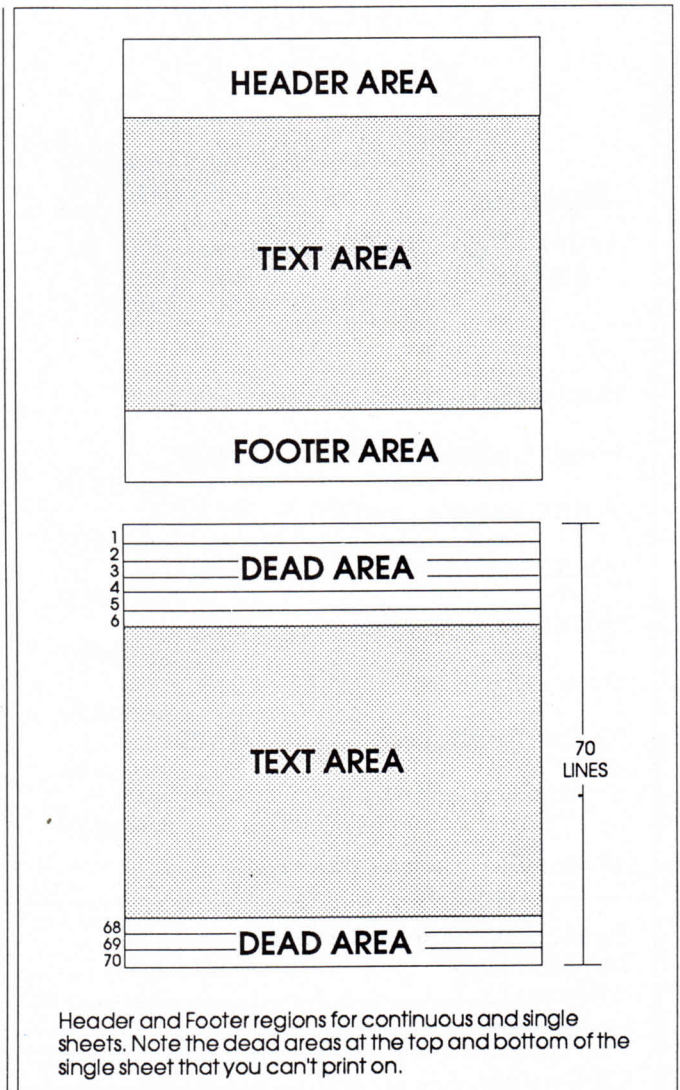
It really is well worth while taking the trouble to use headers and footers, although they have a justifiable reputation as one of LocoScript's more impenetrable areas. Early versions had bugs in, with the result that you couldn't actually do page numbering, but these have now mostly been ironed out.

Anatomy of a page

The key to using headers and footers is to understand how LocoScript splits up the page when printing. As shown in the box, there are three areas: the header (top of the page), the text area called the page body, and the footer (at, you guessed, the foot of the page). You can set the number of lines allocated to each of these areas to be anything you want, as long as the total number matches the overall page length.

Single sheet A4 paper has 70 lines per page. The perforated continuous stationery that is used with the tractor feed mechanism on the printer can print 66 lines per page - this size is known as American Quarto (although it is occasionally possible to buy continuous sheet A4 paper).

The PCW printer can put text on any line on



continuous sheet paper, but can't print on the top 6 lines or bottom 3 lines of single sheet paper. This is simply because, as with an ordinary typewriter, the paper feed rollers have to have enough paper to be able to grip the sheet properly. For this reason, to use headers and footers it is best to try and buy some continuous sheet paper, or else you won't be able to print them at the very tops and bottoms of pages.

Defining the page layout

You can instruct LocoScript to format the page for any size of paper, but you have to tell it how many lines can fit on the sheet, even for standard sizes. This is done in the *Page size* menu of the "Editing header" screen:

This page is 66 lines long
(standard continuous paper)

Line numbers 1-6 (the top 6 lines) are reserved for header text

The header text actually starts on line 2 (so line 1 of the header text has been left blank)

Line numbers 61-66 (the bottom 6 lines) are reserved for footer text

The footer text actually starts on line 64 (so lines 61-63 are blank)

Page size:	
Page length	66
Header zone position	2
page body	54
Footer zone position	64

Using this menu is just a matter of simple arithmetic. You can alter the page length and the header and footer zones and positions, but the "page body" is calculated by LocoScript and is not directly alterable.

The page body is the text area proper, which is the page length less the number of lines in the header and footer zones. In the example menu shown, lines 7 to 60 inclusive are the lines that the text you type into LocoScript will actually appear on. To alter this, you must juggle the page length and the header and footer zones appropriately.

Defining header and footer text

The header and footer texts themselves are just typed into the relevant slots in the "editing pagination" screen in just the same way as you do in the ordinary LocoScript screen.

You can use any LocoScript format command in headers and footers, like pitch changes, tabs or underlined text. The style commands are treated as separate from the ones used for the main page body, so if you set a header in bold type, it isn't necessary to turn bold off for fear that the whole of the page body will end up in bold too.

You will see there appears to be two sets of header

Changing this starts page numbering from the specified number. This is useful if you are storing and printing documents in separate chapters.

If you want to differentiate between types of pages (eg. odd and even numbered ones), set that up here

Best to ignore these choices and set them all to enabled

Pagination:	
First page number	1
All pages same	
First page differs	<input checked="" type="checkbox"/>
Last page differs	<input type="checkbox"/>
Odd/even pages differ	<input type="checkbox"/>
First page	
Header enabled	<input checked="" type="checkbox"/>
Footer enabled	<input checked="" type="checkbox"/>
Last page	
Header enabled	<input checked="" type="checkbox"/>
Footer enabled	<input checked="" type="checkbox"/>

and footer areas. This is because you can make certain pages special - for instance, you might not want to have a header on the very first page of a document, but

only for the continuation pages. Or you might want to put the page number in different places for left and right hand pages.

To use this, you first open the *Pagination* menu from the "Editing header" screen and set it up as required - look at the labelled example for details. Then, back in the editing pagination menu, just type in the header and footers you want.

Page numbering

One of the most common uses of headers and footers is to print out page numbers automatically. This is done with the LocoScript *Page Number* command.

You have to tell LocoScript how many spaces to allow for the page number, and within the space you reserve the number can be left, right or centre justified.

Suppose you know your document will not run beyond 99 pages, that means you need two spaces for the number. The way to insert this in a header is to type as part of the header text where you want the number to appear, `[+]PN` which tells LocoScript to print the current page number - you will have to have the "show codes" edit option in effect to see anything on the screen.

Then immediately afterwards type `==`. This centres the page number within those two spaces - note that the equals signs themselves will not be printed out.

Alternatively, you could have used `<` to left justify, or `>` to right justify. Any other text in the header is just reproduced as normal.

Printing out the document

There is a final trap for the unwary after you have bravely hacked your way through the jungle of LocoScript headers and footers, and this comes at the actual printing stage.

Confusingly, even though you have defined all the page lengths and stationery types in your document, the PCW printer has to be told them again separately, or else the page breaks will happen in the wrong place.

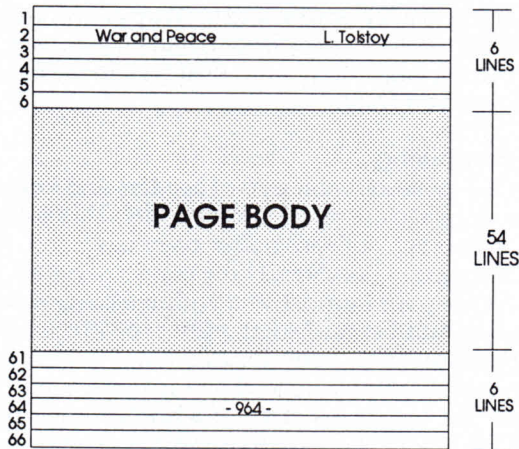
So before printing, go into the printer *Options* menu and check that the paper length specifications match the ones defined in the document itself.

Novel layout step by step

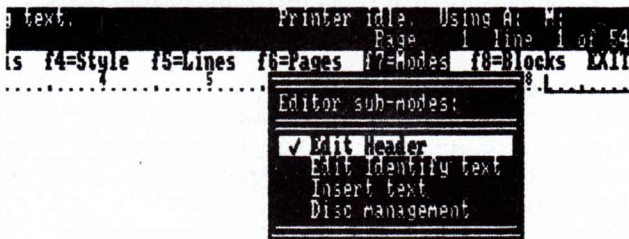
As an example, we'll use LocoScript to create headers and footers for a straightforward document of several pages, like *War and Peace*.

First, think of the layout you want. The header text will say "War and Peace" on the left, and have the author "L Tolstoy" on the right. The footer will be the page number, centred between hyphens like "-23-". Suppose you want to print it on continuous paper (so the page is 66 lines long) with header and footer margins of 6 lines each, the actual header or footer text being on lines 2 and 64 of the page respectively. as a refinement, the header text should not appear on the very first page.

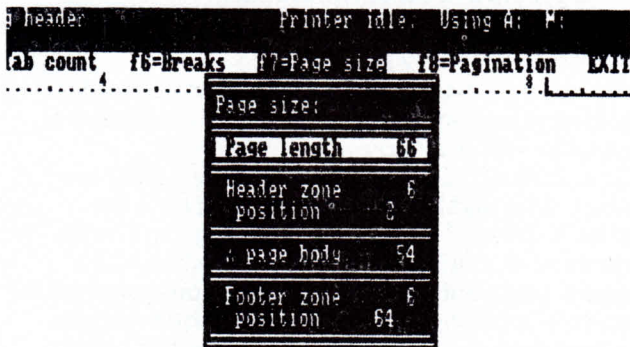
1. Produce a rough sketch showing which lines you want your headers and footers to appear on.



2. In LocoScript, create (or edit) the document that is going to contain your story. While editing, press [F7] to get the Modes menu and select the Edit Header menu option. Then pressing [F7] twice will take you to the Page size menu.

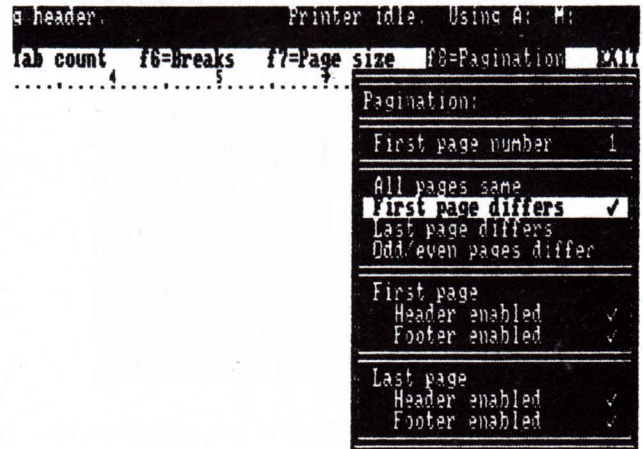


3. Now you fix which line numbers will carry the actual headers and footers: Following your page plan sketch, set the page length to 66, the header and footer zones both to 6 and the header and footer position to 2 and 64 respectively.

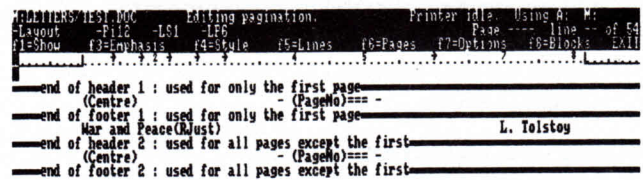


4. Press [ENTER], clear the Page size menu, and then press [F8] for the *Pagination* menu. Set the "First page differs" option (highlight it and press the [+] key).

Then leave the menu, and return to the "Editing pagination" screen (use the [EXIT] key).

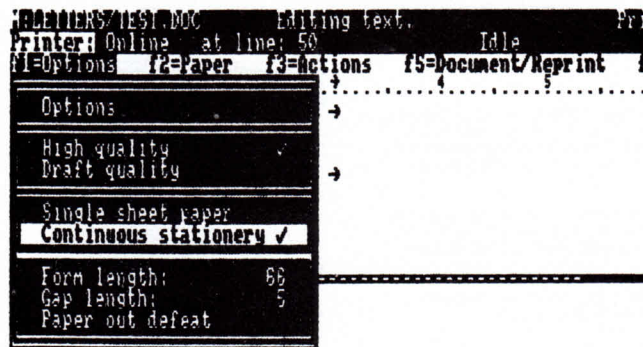


5. Type in the header and footer texts as needed. (Note: in the footer, - (Page No)=== - will cause the page number to be printed centred between the two dashes.) Then press [EXIT] and select "Use this pagination".



6. You're now back in the ordinary text editing screen, and can begin typing your masterpiece. The headers and footers will not be shown during the ordinary course of editing, but they will automatically appear when the document is printed.

7. When you come to print the document, press [PTR], and [f] for the *Options* menu. Make sure the "Continuous stationery" option is ticked (use the + key to set it if not).



Trouble Saver

Remember that headers and footers that you define in a TEMPLATE.STD file are carried over into documents that you create from that file. So you can do all your pagination once and for all in the template document, leaving you only to edit the actual title in the page headers for each new document.

LOCOMAIL & LOCOSPELL

You have seen the superb reviews that these products have been getting (page 24 Dec issue T.A.U). Now, after lengthy negotiations with The OFFICIAL BRITISH AMSTRAD USER CLUB (the exclusive UK distributors), The AUSTRALIAN AMSTRAD PROFESSIONAL USER CLUB has Locomail and Locospell in stock .

YOU CANNOT OBTAIN THESE PRODUCTS ELSEWHERE IN AUSTRALIA!

Make sure the mailmerger and spellchecker you buy work from *within* locoscript , Locomail and Locospell do, which means that they are instantly available at the press of a button, without the hassle of booting CPM and swapping discs every time you use them (unlike QMAIL and PROSPELL).

Locoscript and Locomail are only \$150 (members \$125) each

This months 'Members only' special offers include:-

- TOMAHAWK:- Game+joystick+interface RRP\$119: members price normally \$99.85: **THIS MONTH \$79.95**
- UPGRADE YOUR 256 to 512 with our MEMORY KIT:-256K of RAM RRP \$129: normally \$109.65 **THIS MONTH \$79.95**. Easy step by step instructions (includes a practice chip) **IT IS VERY EASY TO INSTALL**
- MAP ACCOUNTS:- Fully blown accounting system (see good software file) RRP \$499: normally \$424.15: **THIS MONTH \$379.00 (PCW+IBM format)**. TRY THE EVALUATION SET, this is the full system, but with size restrictions (includes a rolling demo) if you like it, send us the balance for the full system and we give you a password which will enable you to unlock the rest of the system , RRP \$112, normally \$99, **SPECIAL THIS MONTH ONLY PRICE \$89 VERY CHEAP!!** This is a very powerfull package. REMEMBER, NO ONE EVER REGRETTED BUYING THE BEST! Ask about the money back guarantee on this product.
- SCOOP PURCHASES:- Newspool (A Print Spooler, allows you to do background printing while using other software packages) **PLUS Shell**, which makes CPM user friendly by, for instance, allowing the user to select files using the cursor, (as in Locoscript). RRP \$99, MEMBERS SPECIAL \$34.96
- CRACKER 2 Sample disc. Ever wanted to try out a spreadsheet? Now is your chance, this is a very powerfull one with a TRY BEFORE YOU BUY offer only \$24.95 (this is allowed against the full price of Cracker 2, MP only \$139 when you buy it !!)

THE AUSTRALIAN AMSTRAD PROFESSIONAL USER CLUB

name pending

About the club:
The AUSTRALIAN AMSTRAD PROFESSIONAL USER CLUB has been formed on the success of the *official British Amstrad User Club*. The British Club, due to its size and success, has an enviable position in being first to release many AMSTRAD products, and due to the close links between the two, the Australian Club also enjoys similar benefits (eg Locomail and Locospell are only available through us).

- The aim of the club is to fully support business users in any way they need. Members enjoy lots of benefits including:-
- * Big discounts on software and peripherals - RRP less 15% or more. We have one of the largest ranges of software in Australia (Major suppliers include AMSOFT,CAXTON, COMSOFT, SAGESOFT, LOTUS, MAP, NEWSTAR, DIGITAL RESEARCH, ASHTON TATE, ARNORand many more!!)....All at the best prices available.
 - * Telephone ordering - our helpfull staff enjoy receiving your calls, goods can be posted on the same day in most cases
 - * Exclusive offers on brand new software releases (for example LOCOMAIL and LOCOSPELL are only available through the Professional User Club).
 - * New software developments
 - * Monthly newsletter produced by AMSTRAD experts and other professionals containing news, product information, your Q+A, details of the month's special offers and a Business bulletin, which gives tips on the accounting side of your business.
 - * Access to "Members only" special offers.
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Yes I wish to join one of the New AMSTRAD USER CLUBS. Name.....
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TAU

Professional Club Membership is only \$59.90. Join NOW!

SPELLING CHECKERS

Reviewed by Ben Taylor and Don Cottrell

A spelling checker doesn't fulfill quite the same role that a dictionary does for conventional writing, where you would just look up words that you know you can't spell. Computer spelling checkers take a more realistic outlook on life. People who can't spell usually don't know they can't spell, so never look the offending words up. More to the point, 90% of "spelling errors" are really typing errors, and the spelling checker just acts as a proof reader.

No matter how well you spell, or how well you type, you need a spelling checker if anybody apart from yourself is ever going to read your word processed literary gems. A word processor without its spelling checker is like a Sumo wrestler without his, er, loin cloth.

LOCOSPELL

LocoSpell is a spelling checker designed to work with the PCW's LocoScript word processor. The software was written by locomotive, authors of LocoScript, and the dictionaries that it uses were designed by Longman's, so it's got an impressive pedigree.

Compared to other spelling checkers

on the market, LocoSpell is very sophisticated. Usually when a spelling checker comes across a word it doesn't know, it just pauses and asks you to correct it. LocoSpell actually suggests alternatives you might use. Not only that, but the suggested correction is matched to the case of the original word - upper case, lower case or mixed case.

Getting going

Reading the LocoSpell manual is slightly bewildering at first. Since you can now buy several add-ons for LocoScript (eg. LocoMail or LocoSpell), there are four pages of dense type explaining all the options on how to configure your startup disc properly. If you use both LocoMail and LocoSpell, there isn't much free space on the disc to play with.

LocoSpell comes with a choice of two dictionaries that work with it. One has 32,000 words the other 77,000. Which one you use depends on what kind of PCW you have and how much trouble you want to go to. In normal operation you keep the dictionary on the M drive for speed of access, but unfortunately the 77,000 word version is too big to fit on an ordinary PCW 8256. The 32,000 word dictionary fits on the same side of the startup disc as the LocoScript/LocoSpell software, so is immediately available when you start up the system. LocoSpell automatically copies it to the M drive for you. If you want to use the larger dictionary, you will have to copy it manually to the M drive, or in the case of 8256 owners, copy the file you are checking to the M drive and use the floppy disc drive to hold the dictionary.

The large dictionary, obviously, just contains a better range of words.

Where dictionaries fear to tread

In addition to the "system" dictionaries, as the built-in ones are known, you can define "user" dictionaries too. These are smaller dictionaries that you build up as you use LocoSpell, which contain words that you personally use a lot but which aren't in LocoSpell's usual dictionary. These might include proper names (like your own name and address), or technical terms if you are in a jargon-ridden profession like law or computing.

Building up dictionaries is a gradual process. As you spell check a document, LocoSpell pauses at words it doesn't know. If it is a word you will use regularly in the future, like "vandaloo", you can opt to store it in the user dictionary. This special dictionary is stored in the same group on the LocoScript disc as the file you have just checked, and if you spell check that document later, or any other document in that group, the special words will be remembered as correct.

Usually, each LocoScript group can have its own user dictionary, although there are ways to ensure that you have one user dictionary that serves all the groups on the disc. If you need to, you can edit your user dictionaries to amend misspelled entries or remove words you no longer need.

Often you use words that you will never use again, like people's names, which LocoSpell will flag up as errors but which aren't worth saving in the dictionary. You could grin and bear it, and press "I" for "ignore" whenever LocoSpell stops, but there is a better way. LocoSpell provides a special code that can be inserted into LocoScript documents as any other LocoScript code can. Type [+ISC (for "sic") at any point in a word, and LocoSpell will

THE SPEED TEST

Since LocoSpell is an adjunct to LocoScript, and works as you scroll through a document, you aren't going to be able to spell check a region of text faster than LocoScript can scroll through it.

As a test, we took a 1350 word document and spell checked it. First, we timed LocoScript scrolling normally through the document. Then we spell checked it with the small and large dictionaries, in each case compiling a user dictionary containing all the words LocoSpell queried.

Finally we timed LocoSpell scrolling through the document with the new user dictionaries in operation too, so it never stopped for a spelling error.

For the tests, performed on a PCW 8512, the system dictionaries were on the M drive, and the documents and user dictionaries were on a floppy disc.

Scrolling through with LocoScript	27 s
Checking with 32,000 word dictionary	88 s
Checking with 77,000 word dictionary	120 s

ignore it.

Good news, bad news

LocoSpell is certainly an invaluable addition to LocoScript. It's sophisticated and very effective, and runs at a fair speed despite LocoScript's inherent sloth.

The fact that you can spell check individual paragraphs in a document as you go is a real boon. Also, if you want to, you can quiz the dictionary for the spelling of an individual word - just give it the first couple of letters and scan through the choices.

The only real complaint is that when you "consult" the dictionary to look up a spelling you aren't sure of, you are given a choice of 20 or so closely matching words: scrolling through this menu is very, very slow if you want to look at choices off the top or bottom of the range.

The manual, a point Locomotive often get flak for, is on the whole very good. The start, about how to sort out your system discs, is very confused, and a clearer explanation about which user dictionaries are being used with which documents would have been nice.

Unlike some other spelling checkers, when you choose to 'ignore' a word that LocoSpell flags up you are not given the choice to ignore it for evermore in that document. You can get around this by choosing to add it to the user dictionary, and then editing it out of the dictionary at the end of the run, but that's a bit messy.

Finally, you can't edit the main system dictionary to remove spellings

you don't like, such as various "-ize endings to words. But overall these are all small niggles and it's another excellent professional package from Locomotive.

PLUSES • MINUSES

- + Runs totally from within LocoScript
- + Can do small sections of a file, eg. the last paragraph typed
- + Suggests alternatives for the misspelt word
- + Reformats the text as it makes corrections
- + Provides the much-missed LocoScript word counter
- + Has a comprehensive 60-page manual
- The manual is very confusing on how to actually make up the start-of-day discs
- Can't edit the system dictionary to remove spellings like "emphasize"
- Very slow at scrolling the dictionary window for correct spellings

PROSPELL

The market leader (until now), and deservedly so. Prospell can check LocoScript files, WordStar files or ASCII files (as produced by Tasword or other wordprocessors). It runs after you've finished the writing - you just give the finished file to Prospell, and it goes through much as LocoSpell does offering you the option to change words or store them in the dictionary for future use. Unlike LocoSpell it doesn't offer you a suggested correction for the word in question. Prospell directly alters the file that it is checking, so you don't have to go over

it afterwards to incorporate the changes. However, if the alterations made would alter the positions of the ends of the lines you will have to go back into your wordprocessor and reformat the file, otherwise when you print it out you will get strange line lengths.

One extra feature that Prospell boasts is a crossword-cum-anagram solver. It can be asked to print out all meaningful anagrams of a given word, or to find all words that match a certain template like K_ROSIN_.

Unfortunately it will only come up with words in its dictionary, not the names of really obscure South American amphibious reptiles!

Here's what Don Cottrell (Bribie Island, QLD) has to say about the package:

In the Introduction to Prospell, Arnor Ltd., who market the software, point out that the system will proof read a document and find most mistakes.

I found this to be a genuine observation. The only limitations are the length of the dictionary used, 30,000 words, and the limitations on the length of the document.

Against some other dictionaries available with other word processing systems, where 45,000 words are available, this appears a limitation. In addition I could not get the system to handle more than 1,800 words. This is not much more than a short story. If you were doing a report, this is no problem, as the system allows you to run from one document to the next.

I found the system quick to use, after loading it onto disc. If you follow the directions, laid down in the user manual, you will encounter no problems. It can be used on the 6128, 8256 and 8512 models of Amstrad.

A quick run through of using the software will give you some idea of its versatility.

Switch the computer on and insert disc into drive A, when the prompt appears, type in P S and RETURN.

A menu will appear, giving you various options, nine in all. We will only be interested in the first two to start. They are S for Spell-check and T for Two pass check. By selecting S you will be prompted to enter the TEXT file. After entering the file name, a further

For classical scholars

LocoSpell's [+]SC code is short for "SIC". As generations of sufferers of Latin classes know, *sic* is latin for *thus*. Used in documents, sic means "I've spelled it thus deliberately, so leave it alone."

Amazing what you can learn from computer magazines, isn't it?

Family Fun

When you buy LocoSpell, unknowingly you are also buying a fascinating fun-for-all-the-family game.

When LocoSpell comes across an unknown word in a document it suggests an alternative to go in its place; this can provide hours of amusement for idle brains. For example, as we were checking over a particular piece of text, LocoSpell didn't like the word "SF" (the abbreviation for Science Fiction). The suggested replacement was SFORZANDI.

If you discover any other gems of unwitting wit, why not write and tell us?

prompt advises to enter the TEXT file, and press the space bar. The system then goes through its loading, scanning and sorting procedure. During this the system is organizing the words to be checked into alphabetical order so a quick scan can be made.

Your next prompt is to insert the dictionary disc. Immediately a counter appears at the bottom of the screen, as the words are scanned. Any word not in the dictionary or a misspelt word will show up with a (?) question mark beside it, asking what action to take. You have five options:

- S Store word in dictionary.
- I Ignore the word.
- C Change the spelling.
- L Look for correct spelling.
- V View the word in context with the sentence.

With S, for store word, you can place the word in the dictionary. Any word you use regularly, which is not a common word, can be placed in the dictionary. Perhaps a word used in your particular type of work or profession.

(I) allows you to ignore the word. If you are sure the spelling is correct and the word is of infrequent use, ignore it.

(C) is to change the spelling. Pressing the C key will highlight the word in the context of the sentence. Changing the spelling is carried out as per normal word correction on Locoscript. The word appears in context and also on the bottom of the screen.

(L) will look up the spelling for you. Any words, which come near the group characters, will appear on the screen, below the questioned word. When the correct spelling is found corrections can be made.

(V) is to view the context of the word in the sentence. If it is a word not normally used you can ignore it.

I can assure you the system is fast. It

ran through a 9,000 character document in about two minutes.

I would recommend that you make out a card, with the prompts written on the card. Both for the main menu, and the prompts given above, until you become familiar with the system. Keep them with your disc.

For the crossword fanatic the facility to find matching words will be a boon. I couldn't help but think it was cheating a bit! If the word was ALTER you could type in A??ER. The dictionary would be scanned and all words with that composition are placed on the screen.

You can also search for Anagrams. As shown in the manual the word pattern could be NAME, the words listed back to you would be AMEN: MANE: NAME. If you listed NAME and one more NAME? you would have listed back NAMES: MEANS.

If you work in a specialized field you can make up your own dictionary to assist in the spelling of unusual words.

It is the Two Way Pass that would be of assistance here. This facility allows a quick run through, with all unmentionable words being displayed on the screen. It does not stop and wait for action to be taken. A prompt is then thrown up asking for ANOTHER DICTIONARY? Your personal dictionary can then be placed in the machine and a scan would then displace the words thrown up in the first pass, assuming they were in the second dictionary.

One facility of interest for the specialized groups is the List Dictionary mode. The dictionary can be run through on the printer, ensuring an up-to-date listing.

I found the software easy to use. Again I am disappointed at the limited dictionary of 30,000 words. This can be added to of course. I also felt the limitation on scan length was a bit of a disadvantage. Altogether, well worth having, especially if you do a lot of small reports, as the system can be keyed to run one report into the other.

The Two Way Pass can be run without attention.

COMPUTER ONE SPELLING CHECKER

The Computer One spelling checker is a Prospell clone. It can correct LocoScript, WordStar and simple text files, and do the same anagram/crossword solving functions.

It has a dictionary twice the size of Prospell (64,000 words compared to 30,000) but runs slightly more slowly.

TASSPELL 8000

Tasspell 8000 is specifically aimed at owners of the Tasword word processor. (Tasword 8000 was reviewed in the September 1986 issue of The Amstrad User). Users of that package can then run Tasspell on the file they are editing as they edit it. For those who don't own Tasword, it can also check single files without having to go through Tasword.

It only works on simple text files, and to use it on LocoScript files you need to convert them to ASCII format with the 'f7 Make ASCII file' option first of all. It runs impressively slowly, doing about 200 words a minute. This makes even LocoScript look fast, which is really saying something. Still, at least it's cheap.

How LocoSpell compares with the rest

Of those spelling checkers on the market, some will read LocoScript files although they run from CP/M. This means you have to leave LocoScript, start up CP/M, run the checker and then restart LocoScript to print out the corrected version.

This may sound tedious, but it does have potential advantages. First, remember that LocoSpell cannot process files any faster than LocoScript can scroll through them, which imposes a fairly large overhead on big files. To do 10,000 words or so you may well find using a CP/M spelling checker considerably faster.

WHAT CHECKERS WON'T DO

Spelling checkers are really proof readers, picking up typing errors. But there is an important difference between human proof readers and computer spelling checkers - spelling checkers can't pick up words that are spelt correctly but used in the wrong way.

For example, some common mistakes are to misuse "there" instead of "their", or "stationary" for "stationery". By extension, if you mistype a word so that the wrong

version is still a legal word, like typing "poser" when you mean "power", the checker will happily tell you all is correct.

Making spelling checkers that can understand the context of a word and so give you a more intelligent correction is surprisingly hard to do. This is what Artificial Intelligence researchers have been trying to do for the last 25 years - if you can write a foolproof program to do it, you're going to be very, very rich. Why not write and tell us about it; we'd like to be rich too.

Second, if you own (or buy at a later stage) another word processor then you can use the same spelling checker with that program. Otherwise you will have to fork out for a new spelling checker.

LocoSpell in Action

Here's how you would go about using LocoSpell to run over your work:

1 LocoSpell starts operating while you are editing a file normally. Press the [F7], "modes", key and you are

faced with the choice of whether to check the entire document, from where you are to the end or just the current word.

2 After the menu choice is selected in the usual LocoScript way (highlight the option and press [ENTER]), LocoSpell searches through the document and stops whenever it comes to a word it doesn't know. It then suggests a correction, and gives you several courses of action.

Most of the choices are obvious.

Pressing [ENTER] just accepts LocoSpell's suggested correction, or if it's a word you will never use again you could just 'ignore' it. If it's a word you use often, like 'Wombat', pressing A and [ENTER] adds the word to the dictionary so it will be recognised in future.

3 Maybe you want to change the word, but LocoSpell's suggested correction is wrong. You could directly edit the text, or you could consult the dictionary. Press C, and [ENTER], and a list of about 20 words pops up which are similar to the misspelled word. Use the cursor keys to highlight the option you want (you can scroll the list by going off the top or bottom) and press [ENTER].

4 The word is now replaced in the document. If the new word is significantly different from the original, LocoScript will reformat the file and continue checking. Other wrong words are treated in the same way, until at the end you are (a) told how many words have been checked, and (b) asked to confirm that the words you wanted to add to the dictionary should indeed be added.

TRAINING, HELP ...and HIGH QUALITY SOFTWARE

These are the key features that will make your investment in computing pay dividends. How many times have you heard people who use computers say that they are difficult, or complicated to use. There have even been cases when the introduction of a computer into a business has had no tangible benefit at all. The reason for this is that vendors, through no fault of their own, do not have the knowledge or flexibility to help their clients effectively, until now that is.

The Australian Amstrad Professional User Club has been created to fulfill this need. It has been based on the success of the Official British Club which performs a similar function in England, therefore, by joining you will be entering a tried and tested system of user support.

So how can the club benefit you. *If you use a computer you may already have some questions about ways to improve the way it operates for you. Perhaps a different accounts package may half the time you spend using the system. The different ways that knowledge can help you are too many to list here.* The cost .. around 16 cents a day, not much compared to the value of your time (consider this, if we save you only 2 mins a day you have made a profit on the deal, assuming you are worth \$6 an hour!)

Amstrad
The Australian Professional
User Club

Tel (02) 977 4697 for details, or turn to page 37

THREE TYPE-INS

A program to make Wordstar text files more readable, one to calculate Credit Card Interest and one for multi-copy prints.

MAKING WORDSTAR READABLE

Nine lines of BASIC which knock spots (and accents, and borders, and little wiggly lines) off WordStar text.

```
10 INPUT "name of WordStar file"
   ;WS$
20 INPUT "name of file to hold
   ASCII output"; ASC$
30 OPEN "I",1,WS$
40 OPEN "O",2,ASC$
50 WHILE NOT EOF(1)
60 C=ASC(INPUT$(1,1)) AND 127
70 PRINT #2, CHR$(c);
80 WEND
90 CLOSE
```

You've just finished a long session typing letters into WordStar or NewWord, have shut the program down for the night and, bleary-eyed, you're suddenly grabbed by the suspicion that you signed the letter to your 92 year-old grandmother 'Yours sincerely'. This is a form of address she so loathes that she will without doubt cut you out of her will. In increasing panic you type TYPE A : GRANNY.LET and a screenful of complete garbage scrolls up the screen, driving you cross-eyed and forcing your doctor to recommend six months complete rest and the immediate disposal of your PCW.

Not a pretty scene, and one which could so easily have been avoided with our super-economical WordStar to ASCII file converter. Not only can you display a WordStar file on the screen in a thoroughly readable manner but, at no extra charge, you can load the converted file into LocoScript by opening an empty LocoScript file and reading in the ASCII text. What amazing value!

Follow the instructions in the 'How to type a listing in' box, noting in particular that the characters in inverted commas in lines 30 and 40 are capital i and capital o, respectively, and that the figures in

brackets in lines 50 and 60 are all ones.

When you run the program from within BASIC, you are asked for the names of the WordStar file and the file for the converted text. The utility then goes away and converts the WordStar file into ASCII.

Boffin Note

WordStar adds 128 to the value of the last character in each word of a document file. This is why these characters show as foreign letters or graphic symbols when displayed from outside WordStar. WordStar uses these so-called 'high bytes' to keep track of the ends of words and help it format text.

CREDIT CARD CALCULATOR

This short routine helps you calculate just how much you will owe your credit card company by the end of the month. Enter the program as usual. When you run it, decide whether you want interest added to your figures and the program will then calculate how much you owe.

As it stands, the program assumes an interest rate of 2% per month. If the current rate is different from this, just change the '2' in line 60.

```
10 c=1
20 INPUT "Start value";a
30 INPUT "Monthly payment";b
40 INPUT "Do you want interest
   added (Y/N)";e$
50 PRINT "Month      Int
   Bal"
60 IF UPPER$(e$)="Y" THEN
   d=a*2/100: a=a+d
70 a=a-b
80 PRINT USING "##      ###.##
   ##.##";c,d,a
90 IF a>0 THEN c=c+1: GOTO 60
```


How to type in a listing

The first thing is to load up Mallard Basic. To do this, turn on the PCW (or reset it with [SHIFT]+[EXTRA]+[EXIT] and into the top drive put the CP/M startup disc, which is the other side of the LocoScript startup disc.

When you get the A> prompt, type BASIC, and after a few seconds a message about "Mallard-80 BASIC" appears and it says "OK". Now copy out each line in the listing very carefully, including the line numbers, and press [RETURN] at the end of each line. Be careful to distinguish between capital I and the digit 1, o and 0, and colons and semicolons. During a long listing it's important to save your work every 15 minutes or so. And for all listings you must save them before attempting to run them. To do this, find a work disc you can write to, put it in the disc drive, and type

SAVE "PROGRAM". [RETURN]. Or you can choose any other name instead of the word "program".

When you've finished, type LIST [RETURN] and the whole program will appear on the screen. Check it, and if any lines are wrong, you can correct them with the line editor. For example, if the mistake was in line 100, you would type EDIT 100 [RETURN], and use the cursor keys and delete keys to fix the line. Press [RETURN] when the line is correct.

If you have mistyped a line number, so that a line appears in the wrong sequence, just type the incorrect line number and the [RETURN], which effectively deletes the line, then retype the line with its correct number.

When you're satisfied the listing is correct, SAVE the finished version (see above) and now your program is ready to run. Just type

RUN [RETURN]

And yes... it goes wrong. It's more than likely, no matter how meticulously you copied the listing out, that the first time you run the program it won't work properly. You may get some arcane message like "Syntax error in 100". List the program out (using LIST), and carefully check the screen against the original in the magazine.

Incidentally apart from syntax errors, the line number mentioned in the error message isn't necessarily where the error is located - it's simply the point at which the computer gets stuck. You may have to look elsewhere for the error.

When you've found it, either retype the line wholesale, or correct it by using the line editor as described above.

Type RUN again, and hopefully it works this time. If not, go on correcting and re-running until it does. Finally, don't forget to save the corrected version again.

When you've finally finished with the program, typing SYSTEM [RETURN] returns you to CP/M

To run the phone coster another day, start BASIC up normally, put the disc you saved the program on in the drive and type

LOAD "PROGRAM" [RETURN] or

whatever name you gave the program when you saved it.

Then as before, when it says OK, type

RUN [RETURN].

MULTI-COPY

By Natalie Kehr

One of the continual frustrations of the current version of LocoScript is its inability to easily produce more than one copy of a document. This simple listing allows you to print out any number of copies of an ASCII file.

It does mean you have to save a copy of your document in ASCII form (via the modes menu of the disc management screen) and load BASIC to run the multi-copy program, but this is still a lot quicker than having to cut and paste lots of copies of the same documentation from within the word processor in many cases.

```

10 REM print asc
20 REM Natalie Kehr
30 REM Prints an ASCII file a
   REM given number of times
40 esc$=CHR$(27)
50 ff$=CHR$(12)
60 c$=esc$+"E"+esc$+"H"
70 PRINT c$
80 INPUT "Name of file to be
   REM printed";name$
90 INPUT "How many times do you
   REM want it printed"; num%
100 FOR i=1 TO num%
110 OPEN "I",1,name$
120 x$=INPUT$(1,1)
130 WHILE NOT EOF(1)
140 LPRINT x$;
150 x$=INPUT$(1,1)
160 WEND
170 CLOSE 1
180 LPRINT ff$;
190 NEXT i
200 PRINT "End of printing"

```

```

10 REM If you have any short
   REM programs
20 REM you think may be useful
   REM to other readers
30 REM send them right now to
40 REM The Amstrad User
50 REM Suite 1/245 Springvale Rd
60 REM Glen Waverley, Vic 3150
70 REM Don't forget to put your
   REM name and address for payment

```


Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7

FIGURE 2

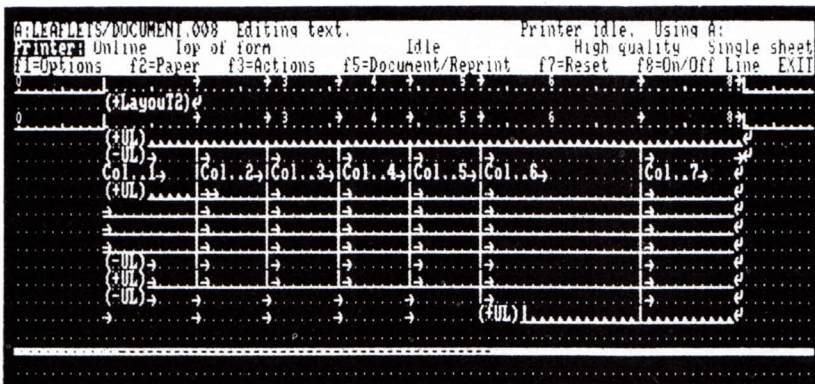


FIGURE 3 - An incorrect screen layout producing Figure 2

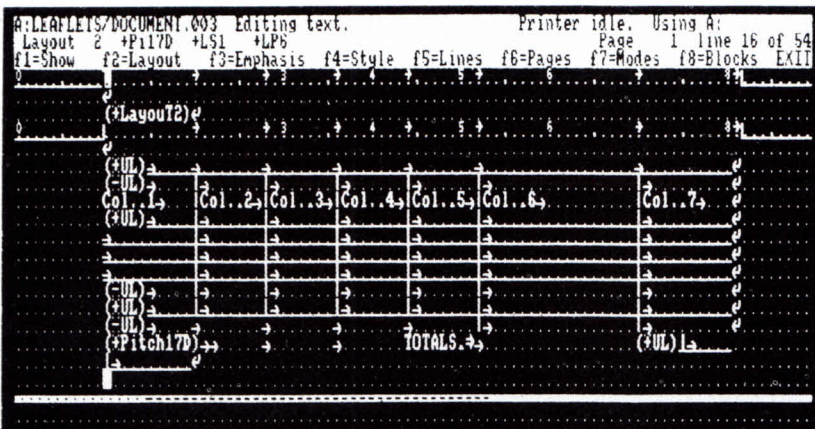


FIGURE 4 - The corrected version for what was required

the (+UL) option has been correctly chosen, but the space bar rather than the TAB key has been used to carry the underlining to the end of the line, followed by a [RETURN]. A similar mistake has been made on the fourth line, resulting in the misplacement of the first vertical column mark in that line.

Also, on the final line, where the first vertical bar appears to be displaced, it in fact prints correctly, since LocoScript instructions do not appear on the printed output. However, because the user has mistakenly lined up the second vertical on the line with the line above, that one does appear misplaced on the printout even though it is OK on the screen!

The 'tame' version is shown in the next screen print - Figure 4. Here the underlining has been carried forward on each line using the tab settings alone and, presto, it works! This produces the table we wanted in the first place. Incidentally, the smart arrow in the TOTAL line is produced with [ALT]+>.

How then can you save this table for use in future documents? LocoScript can save chunks of text as 'blocks' or 'phrases' for future use in other documents. The current example is too large to be stored as a phrase, so the best thing to do is to save the table as a LocoScript document in its own right, via the COPY key and 'f8=Blocks' menu.

To do this, type the table into your LocoScript document, place the cursor at the first line of it and press [COPY] again. You have to specify a block number for LocoScript to remember the text by, so choose a number from 0 to 9 and type it in. The highlighted text will revert to normal.

Now save this block as a document. Pick the 'f8=Blocks' menu, enter the number of the block that you chose in the 'Save Block?' option, and press [ENTER]. You will now be faced with the Disc Management screen, and at the top of the screen is the ever inquisitive header prompting you to 'pick a destination group'. Use the cursor keys to get the cursor bar into the group you want, press [ENTER], and provide a name for the file as you are asked.

The block is then ready for use at any time in the future, by pressing [f7], 'Insert text' and picking the right file, providing the destination group you

have chosen is not in drive M! Remember; if you do not save the block to a file in this way, it will be lost and gone for ever once you finish editing your current document.

Getting your layouts straight

Sadly, your highly-prized block has not been able to carry its layout round with it in its back pocket. Inserting it into a new document using 'Insert Text' as just described will cause it to blithely adopt whatever layout happens to be hanging around at the time. This may be quite different from the one which was used when the table was defined, with tabs in quite the wrong places.

So how do you get round it? The best way is to make sure you save a layout identifier (using 'f2=layout' menu and its 'Insert Layout' options with the table text. When you define layouts, they are stored with that document for future use. If the document you define them in is TEMPLATE.STD, then those layouts will be available in all documents created with that template.

If you only use a few different layouts, you can store them all in the TEMPLATE.STD that you usually use. Then, when the LocoScript command to use a

particular layout is read in, the correct layout will be used automatically. However, this only works if you are working in the same group and with the same TEMPLATE.STD file as was used when the table was created. It is a simple matter to slip your block in using f7=Modes, Insert Text, and Bob has become your uncle once again.

Unbroken vertical lines

The process just described produces quite acceptable results, but it is possible with a little trickery to produce tables which have unbroken vertical lines and are also filled with text. To do this, you have to get to grips with altering the printer's 'line spacing'.

As before, the first step on the road to happiness is to set up a new layout which has tab stops in the correct places for aligning the column rules. Work out on a piece of paper where you want the columns to go, and then set up the layout with tabs in the right places.

The table is set up much as in the previous examples. Horizontal lines are produced with the underline code and

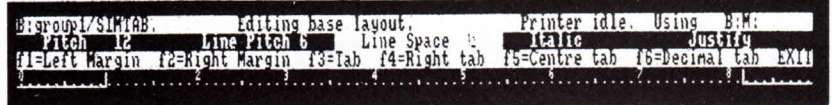
by TABbing across to the next column, and the vertical lines are placed by [EXTRA]+fullstop.

Now for the clever part. If you change the line spacing to 1/2, then when the page is printed the top of one line crashes into the bottom of the line above it. This isn't very useful for normal text, but if you force the vertical line characters to overlap then you achieve the semblance of true unbroken lines.

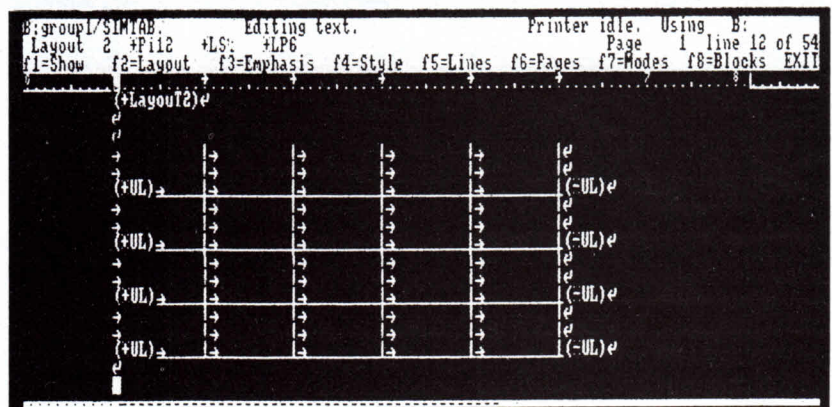
To change the line spacing you will need to alter the layout you are currently using. You can do this at the same time as you place the Tab stops in the layout, or afterwards by positioning the cursor somewhere in the table text and using the 'f2=Layout' menu and its 'edit current layout' option.

Once in the editing layout mode, use the cursor keys to highlight the 'Line Space' item, and then the minus key to set the spacing to 1/2. [EXIT] as normal to finish the layout editing.

Finally, for the *piece de resistance* you can try and type some text into the tables. Just type it in by eye on the screen, making sure that the column lines are still lined up. Remember you are printing out lines half-spaced, so to run text on adjacent lines on the printed page you will need to put a blank line between them on the screen, or the printed version will be garbled.



Altering the layout to give half-spaced lines



▲ The screen for a simple table with unbroken vertical lines and the results ▼

GRAPHICS ON THE PCW

The second part of an article to update your Basic programs with GSX

by Arnold Goldman

Now that you have had a month to play with GSX and produce all manner of artistic masterpieces, we can go ahead with the remainder of the SUPER program I promised last time.

This program uses most of the program listed in last month's episode, and the line numbers are the same. I shall list the lines to delete before you start comparing the listings. Delete lines 500 to 850 and 3400 to 3510. The rest are all re-useable. Of course, you should also rename your old program, to something other than SUPER.BAS, before you save this new program. This new program requires the name SUPER.BAS in order to run on start up by typing in SUBMIT SUPER. So, if you completed last months exercise and saved the program as SUPER.BAS, use the following statement. It doesn't matter whether you are in BASIC or in CP/M:-

REM DEMO.BAS=SUPER.BAS and press RETURN. Some of you, I am sure, will already have gone one step further and incorporated it into a PROFILE.SUB file to make it load without pressing any keys although I think this is taking things too far.

Well, what does this program do apart from draw charts and fill them with numbers? It is essentially a compound interest program with several options. There is the original superannuation lump sum calculator with % contributions and predicted annual pay rises. To this I have added a weekly, fortnightly, or monthly savings option, and a monthly loan repayment option. There are error traps to catch incorrect date entries, and to prevent ridiculous year entries. More than 30 years in the past or future are unacceptable. This can, of course, be easily changed in lines 1780 and 1900 where the lower and upper limits for years are set. The calculations are based on interest being added monthly, and for weekly or fortnightly savings, I have converted to an average monthly amount. No doubt some smart accounting type out there will shriek with horror at my methods, but they seem logical enough to me. The graphics content is much as described last month with the use of line drawing, box drawing, and text location sub-routines. I have of course added the other letters of SUPER as last month only had the large dollar sign on the screen. I tried introducing a printer output of the graphics, but it became

all tangled up with the different pictures and the input requirements on screen. The program would need to be severely modified to allow for printer output of the graphics, and I have no intention of embarking on that journey.

Most variable names are self explanatory, but in order to introduce options, and still retain a minimum length program, I have introduced a set of variables called para1!, para2!, etc. which take on different meanings with different options. When I finally sorted out all the bugs I began to wonder whether it would have been easier to have three separate programs as sub-routines. That way the variables may have been easier to follow, and the whole may not have been a lot longer.

I guess you might like some sort of explanation of what each part of the program does, so here goes.

Lines 20 to 220. This is the introduction and explanation placed at the beginning of the listing, but in the form of strings to be printed later in the program. You may note the use of the STRING\$ and SPACE\$ commands to avoid typing in 80 \$ signs and 78 spaces. I realise now that lines 20, 130, 140, and 220 are identical and three of them could be deleted as long as care is taken to correct for it elsewhere in the program. The same goes for lines 30, 120, 150, and 210. I will not be altering my version, but you may alter yours.

Lines 230 to 300. These are some definitions to make life easier later on. Be careful with line 270. This is the calendar with three As in front. The As are there as filling. Any letters will do as long as they are not the first three of any month.

Lines 310 to 330. Here the GSX; is called to open the workstation, the DATA pointer is restored to the first datum, and a variable, paid!, is reset to 0 for use in a continuation loop at the end of the program.

Lines 340 to 910. In this part of the program the \$UPER logo is drawn. Each section is indicated and uses the subroutine at line 3320 to draw lines. As the GSX draw function requires the start and finish point of each line drawn, I have used the loops shown to only read in successive points and re-use the previous point as the start position. This posed the initial problem of what to do about the first point. I fixed this by putting it in a line outside the loop such as in line 350. Hence the need to call the first start points **trx** and **try** when really they are used elsewhere as the end point for drawing lines. The box drawing function is used to draw the vertical bar on the dollar sign. Here there is only need to define the lower left and upper right corners before going off to subroutine 3360.

Lines 930 to 1220. These lines print the earlier listed comments at the locations defined in each line by the second number in the CHR\$(32+No.) part of the statement. The first CHR\$ is the row number and the second CHR\$ is the column number. The last few lines are printed in a more conventional way, using a TAB to move them across the screen.

Lines 1230 to 1250 just draw a box around the options presented on screen.

Lines 1260 to 1330. Here the program uses an INKEY\$ to await the selection by the user, and then checks to ensure the input is acceptable.

Lines 1340 to 1410. The program now draws the boxes on the screen for entry of the information you are going to give it, and for display of the output. I did this part of the program early on and have used the full numbers in the DATA statements. You might like to try altering the program around here to use something like line 490. Then you can leave the last two zeros off each data point in lines 1370 to 1390.

Lines 1410 to 1930. This is a messy part of the program as far as the listing is concerned. Before I introduced options to the program it was all quite simple, but now the program has to GOSUB in line 1420 to obtain the different titles and enter them in the boxes, and sort out the right questions to ask for the inputs. This is where I have introduced the variables, **para1!**, **para2!**, etc., which take on different meanings with each option. I shall leave the explanation of some of the sub-routines called from this section of the program until their line number comes up.

Lines 1940 to 2280. This is the main part of the program where the month and year inputs are converted to useable numbers and the other inputs are worked on to add or subtract the interest each month. The actual calculations are carried out in sub-routines which are called up in lines 1950, 2059, and 2190. In lines 2070 to 2110 the program uses **col** and **row** to move around the screen when placing the results of calculations in the right place. It also recognises in lines 2170 and 2180 when it has come to the bottom of the available space. There is a certain amount of jumping around using GOTO commands in this section. This seems unavoidable in a program of this type, but I am sure there must be better ways.

Lines 2290 to 2330. This is the end of the program where the user chooses whether to continue with more calculations or not.

Lines 2340 to 2740. These are the title sub-routines. In them you will see the mixing of numbers and strings in the DATA statements.

Lines 3000 to 3150. These sub-routines open the workstation, call GSX, and print text at a selected location. You will see here the use of LEN to obtain the value for contrl(4) in the text printing sub-routine, and the use of ASC to convert the parts of the string into ASCII values. These are both essential in any GSX text printing exercise.

Line 3160 to 3230. Here I have reverted to ordinary Mallard Basic to position the input statements within the boxes on the screen. The precision of location is sufficient with 32 rows and 90 columns to choose from. With GSX, text

can be positioned on a grid of 248 rows and 720 columns. The smart little instructions for clearing lines, etc. are all in the instruction book.

Lines 3240 to 3270. This sub-routine converts the input month\$ into a number based on its position in the calendar string. This number is then converted to a number in the range 1 to 12 at lines 1960 and 2000.

Lines 3280 to 3390. These sub-routines close the workstation, draw lines, and draw boxes by making calls on GSX. If used in other programs take care to use the same variable names, for the start and finish points of your lines, as are used in the main program.

Lines 3400 to 3530. This section takes care of getting the user to provide the correct date information.

Lines 3540 to 3680. This is where the program does the accounts for each month. The actual part used depends upon the option chosen. You will note the use throughout this section of floating point variables using the ! to define this. I have also used INT to convert the answers to a useable length for display.

Lines 3690 to 3820. This is part of the end routine when loan repayment option is selected, and converts the month number back to a string for use in the display.

Well now, what problems might you encounter with this program? None, I hope, if you type it in accurately. But watch out for errors where the program listing has wrapped around onto a second line in the middle of a number. This is particularly noticeable in the DATA statements, and especially so at lines 1520 and 1630 where the last number in the line just happens to be the number of the next line. Be warned, be careful. All variables are defined as integers in line 280 because this is easier than typing in all those % signs which easily become confused with % signs in a program about interest. However, some variables need to be in floating point and these you will see with an ! at the end.

Even if you don't learn a lot from reading and using this program, I learnt quite a few things in writing it!

First I learnt how to interact with GSX to form this display which looks rather like some of the commercial software packages on the market. Then I learnt that a text string for use in GSX must have something in it even if it is only a blank space. I have used dashes when a parameter is not used with a particular option just to show that there is meant to be nothing there. I have also learnt some respect for the software writers. This is only a simple program of less than 400 lines, but the amount of time taken to make it fairly user friendly and idiot-proof would cost at least \$2 per line of program. So don't complain when you have to pay \$150 for a well written package complete with instruction manual. I hope the editor doesn't use this argument to justify putting up the price of the magazine. After all, who would pay good money for a program like this.

Now, if you carried out last months exercise, you should have a file called GSXPREP.BAS on your disc. If you wish to make the loading of the new SUPER program easy for the computer user you will have to change the last line of GSXPREP.BAS. At present it reads 220 SYSTEM, and should be changed to read 220 RUN "SUPER"

To run the program, after you have started up the computer, all you need type in is **SUBMIT SUPER**, but only if you have all the files on the same disc. You may not wish to do this, but at least it shows how to prepare a program that can easily be entered, and operated by a complete beginner at computer usage.

Well, away you go on the keyboard, and you will be able to produce screens looking like those in last month's magazine. For those who didn't buy last month's issue, you will have trouble with this program as it will only run on the PCW after you have converted your **BASIC.COM** file to a **GSX** extended version using the instructions provided last month. If you are really keen on using **GSX** graphics you had better buy the last issue plus issues Nos. 18, 19 and 20 of the *Amstrad Computer User* (English) which explains a lot more than I have. I also believe that there will be more to come in later issues of this magazine, if you are prepared to wait, from at least one other user who has managed to sort out a few things in graphical terms. As I am writing this in December 1986 for you to read in March 1987, I am sure that by then there will be a flood of articles on **GSX** graphics for the editor to sort out for you!

```

10 REM * * SUPER.BAS :- A graphic program
for the PCW by A.Goldman Dec.1986 * *
20 H1$= STRING$(80,"$")
30 H2$= "$"+SPACE$(78)+"$"
40 H3$="$ SUPER is a program to calculate
equity of superannuation funds, balance
of $"
50 H4$="$ savings accounts, and amount
still owing on loan and mortgage accounts
at $"
60 H5$="$ some time in the future.
The program will ask for various inputs
of $"
70 H6$="$ information as required for
the selection you make. Money amounts should
be $"
80 H61$="$ be entered without the $ sign.
Percentage amounts should be entered
with- $"
90 H62$="$ out the % sign. Dates should
be entered in the following way - Jan,
1987 - $"
100 H63$="$ the comma is essential." +
SPACE$(52) + "$"
110 H7$="$" + SPACE$(25) + "Press space
bar to continue." + SPACE$(25) + "$"
120 H8$="$"+SPACE$(78)+"$"
130 H9$= STRING$(80,"$")
140 H10$= STRING$(80,"$")
150 H11$="$"+SPACE$(78)+"$"
160 H12$="$ The method used to calculate
balances is to add the interest monthly
based $"
170 H13$="$ on the minimum balance during
the month. For weekly or fortnightly
savings $"
180 H14$="$ accounts an equivalent monthly
deposit is used. The overall discrepancy

```

```

ancy $"
190 H15$="$ will probably not amount to
much." + SPACE$(43) + "$"
200 H16$="$ For loans, the monthly payment
is deducted before the interest is
added. $"
210 H18$="$"+SPACE$(78)+"$"
220 H19$= STRING$(80,"$")
230 esc$ = CHR$(27)
240 cls$=esc$ + "E"
250 cursor$ = esc$ + "e"
260 comment$ = esc$ + "Y"
270 cal$ = "AAAJANFEBMARAPR MAYJUNJULAUUGS
EPOCTNOVDEC"
280 DEFINT a-z
290 DIM contrl(6), ptsin(80), ptsout(12)
, intin(80), intout(45)
300 gsx=&H30
310 GOSUB 3010 'initialise GSX and open
workstation
320 RESTORE
330 paid!=0
340 REM * * * * Draw $ * * * *
350 trx=2400: try=18600
360 FOR sline=1 TO 24
370 llx=trx: lly=try
380 READ tx,ty
390 trx=tx*100: try=ty*100+3000: GOSUB 3
320 'Draw a line
400 NEXT sline
410 DATA 36,140,64,140,80,160,80,184,64,
208,44,208,36,220,36,236,44,244,60,244,7
2,236,80,252,64,260,40,260,24,240,24,208
,36,192,60,192,68,184,68,168,60,156,44,1
56,32,168,24,156
420 llx=4600:lly=15000:trx=5800:try=3100
0
430 GOSUB 3360 ' Draw a box
440 REM * * * * Draw U * * * *
450 trx=10000: try=22800
460 FOR uline=1 TO 12
470 llx=trx: lly=try
480 READ tx,ty
490 trx=tx*100:try=ty*100: GOSUB 3320
500 NEXT uline
510 DATA 100,180,110,168,130,168,140,180
,140,228,130,228,130,180,125,176,115,176
,110,180,110,228,100,228
520 REM * * * * Draw P outer * * * *
530 trx=15200:try=16800
540 FOR pline=1 TO 8
550 llx=trx: lly=try
560 READ tx,ty
570 trx=tx*100: try=ty*100: GOSUB 3320
580 NEXT pline
590 DATA 152,228,180,228,192,216,192,200
,180,186,162,186,162,168,152,168
600 REM * * * * Draw P inner * * * *
610 trx=16200: try=20000
620 FOR hline=1 TO 6
630 llx=trx: lly=try
640 READ tx,ty

```



```
650 trx=tx*100: try=ty*100: GOSUB 3320
660 NEXT hline
670 DATA 162,216,176,216,180,212,180,204
,176,200,162,200
680 REM * * * * Draw E * * * *
690 trx=20000: try=16800
700 FOR eline=1 TO 12
710 llx=trx: lly=try
720 READ tx,ty
730 trx=tx*100: try=ty*100: GOSUB 3320
740 NEXT eline
750 DATA 200,228,240,228,240,216,210,216
,210,200,224,200,224,192,210,192,210,178
,240,178,240,168,200,168
760 REM * * * * Draw R outer * * * *
770 trx=25000: try=16800
780 FOR rline=1 TO 11
790 llx=trx: lly=try
800 READ tx,ty
810 trx=tx*100: try=ty*100: GOSUB 3320
820 NEXT rline
830 DATA 250,228,278,228,290,216,290,200
,278,186,290,168,280,168,268,186,260,186
,260,168,250,168
840 REM * * * * Draw R inner * * * *
850 trx=26000: try=20000
860 FOR rhline=1 TO 6
870 llx=trx: lly=try
880 READ tx,ty
890 trx=tx*100: try=ty*100: GOSUB 3320
900 NEXT rhline
910 DATA 260,216,274,216,278,212,278,204
,274,200,260,200
920 IF more$ = "Y" GOTO 1160
930 PRINT comment$;CHR$(32+17);CHR$(32+5
);H1$
940 PRINT comment$;CHR$(32+18);CHR$(32+5
);H2$
950 PRINT comment$;CHR$(32+19);CHR$(32+5
);H3$
960 PRINT comment$;CHR$(32+20);CHR$(32+5
);H4$
970 PRINT comment$;CHR$(32+21);CHR$(32+5
);H5$
980 PRINT comment$;CHR$(32+22);CHR$(32+5
);H6$
990 PRINT comment$;CHR$(32+23);CHR$(32+5
);H61$
1000 PRINT comment$;CHR$(32+24);CHR$(32+
5);H62$
1010 PRINT comment$;CHR$(32+25);CHR$(32+
5);H63$
1020 PRINT comment$;CHR$(32+26);CHR$(32+
5);H7$
1030 PRINT comment$;CHR$(32+27);CHR$(32+
5);H8$
1040 PRINT comment$;CHR$(32+28);CHR$(32+
5);H9$
1050 WHILE INKEY$="" : WEND
1060 PRINT cls$
1070 PRINT comment$;CHR$(32+6);CHR$(32+5
);H10$
```

```
1080 PRINT comment$;CHR$(32+7);CHR$(32+5
);H11$
1090 PRINT comment$;CHR$(32+8);CHR$(32+5
);H12$
1100 PRINT comment$;CHR$(32+9);CHR$(32+5
);H13$
1110 PRINT comment$;CHR$(32+10);CHR$(32+
5);H14$
1120 PRINT comment$;CHR$(32+11);CHR$(32+
5);H15$
1130 PRINT comment$;CHR$(32+12);CHR$(32+
5);H16$
1140 PRINT comment$;CHR$(32+13);CHR$(32+
5);H18$
1150 PRINT comment$;CHR$(32+14);CHR$(32+
5);H19$
1160 PRINT comment$;CHR$(32+20);CHR$(32+
5);
1170 PRINT:PRINT TAB(25);" Choose from t
he following options:-"
1180 PRINT:PRINT TAB(25);" Superannuatio
n-1, "
1190 PRINT TAB(25);" Weekly savings-2, "
1200 PRINT TAB(25);" Fortnightly savings
-3,"
1210 PRINT TAB(25);" Monthly savings-4,"
1220 PRINT TAB(25);" Loan repayments-5"
1230 REM * * * * Draw frame for selectio
ns * * * *
1240 llx=8000: lly=1400: trx=24000: try=
15000: GOSUB 3360
1250 llx=8200: lly=1600: trx=23800: try=
14800: GOSUB 3360
1260 choice$ = INKEY$
1270 IF choice$ = "" THEN 1260
1280 choice = VAL(choice$)
1290 IF choice < 1 GOTO 1310
1300 IF choice < 6 GOTO 1330
1310 GOSUB 3170
1320 PRINT "Incorrect entry - try again"
: GOTO 1160
1330 PRINT cls$
1340 row=0:col=0
1350 FOR box= 1 TO 11
1360 READ llx,lly,trx,try
1370 DATA 1000,28000,7000,31000,7000,280
00,13000,31000,13000,28000,19000,31000,1
9000,28000,25000,31000,25000,28000,31000
,31000
1380 DATA 1000,25000,7000,28000,7000,250
00,15000,28000,15000,25000,24000,28000,2
4000,25000,31000,28000
1390 DATA 1000,5000,31000,25000,1000,100
0,31000,5000
1400 GOSUB 3360
1410 NEXT box
1420 ON choice GOSUB 2340,2490,2490,2490
,2630 ' Obtain relevant titles
1430 GOSUB 3170 ' Prepare for comment
statement
```



```

1440 PRINT inp1$:GOSUB 3200: INPUT; para
1$
1450 para1!=VAL(para1$)
1460 title$="$"+para1$:x=1300:y=28500
1470 GOSUB 3090 ' Subroutine to print
text in boxes
1480 GOSUB 3170
1490 INPUT"Enter present interest rate a
nd press RETURN";interest$
1500 interest!=VAL(interest$): title$=in
terest$+"%":x=7300:y=28500
1510 GOSUB 3090
1520 ON choice GOTO 1530,1530,1610,1690,
1530
1530 GOSUB 3170
1540 PRINT inp2$:GOSUB 3200: INPUT; para
2$
1550 para2!=VAL(para2$): title$="$"+para
2$:x=13300:y=28500
1560 GOSUB 3090
1570 IF choice <> 2 GOTO 1600
1580 para4! = para2! * 52/12
1590 para4$ = STR$(para4!): GOTO 1730
1600 ON choice GOTO 1610,1720,1720,1720,
1750
1610 GOSUB 3170
1620 PRINT inp3$:GOSUB 3200: INPUT; para
3$
1630 ON choice GOTO 1640,1650,1650,1650,
1640
1640 para3!=VAL(para3$): title$=para3$+"
%":x=19300:y=28500: GOTO 1660
1650 para3! = VAL(para3$): title$="$"+pa
ra3$: x=19300: y=28500
1660 GOSUB 3090
1670 para4$ = STR$(para3! * 26/12)
1680 ON choice GOTO 1690,1730,1730,1700,
1750
1690 GOSUB 3170
1700 PRINT inp4$:GOSUB 3200: INPUT; para
4$
1710 IF choice = 4 GOTO 1730
1720 para4!=VAL(para4$): title$=para4$+"
%":x=25300:y=28500: GOTO 1740
1730 para4!=VAL(para4$): title$="$"+para
4$:x=25300:y=28500
1740 GOSUB 3090
1750 GOSUB 3170
1760 INPUT "Enter present Month and Year
(eg.Sept, 1986) and press RETURN"; Mnow
$,Ynow$
1770 Ynow=VAL(Ynow$)
1780 IF Ynow > 1957 GOTO 1810
1790 GOSUB 3170: PRINT"Start date more t
han 30 years ago not permitted"
1800 GOSUB 3210: GOTO 1760
1810 IF Ynow < 2000 GOTO 1840
1820 GOSUB 3170: PRINT"You have probably
entered the wrong year."
1830 GOSUB 3210: GOTO 1760
1840 GOSUB 3170

```

```

1850 INPUT "Enter final Month and Year (
eg.Sept, 1999) and press RETURN";Mthen$,
Ythen$
1860 Ythen=VAL(Ythen$): title$=Mthen$+"
"+Ythen$:x=1500:y=25500
1870 IF Ythen >= Ynow GOTO 1900
1880 GOSUB 3480: PRINT"You have entered
the year incorrectly - try again."
1890 GOSUB 3210: GOTO 1850
1900 IF Ythen < 2020 GOTO 1930
1910 GOSUB 3170: PRINT"Years more than 3
0 years in future not permitted."
1920 GOSUB 3210: GOTO 1850
1930 GOSUB 3090: GOSUB 3170
1940 month$=Mnow$
1950 GOSUB 3250 ' Month conversion fro
m $ to number
1960 month=(m-1)/3: IF m=0 THEN GOSUB 34
10 ELSE GOTO 1980
1970 GOTO 1940
1980 month$=Mthen$
1990 GOSUB 3250
2000 Mthen=(m-1)/3: IF m=0 THEN GOSUB 34
80 ELSE GOTO 2020
2010 GOTO 1980
2020 GOTO 2190
2030 IF month=13 THEN month=1
2040 IF month>1 THEN 2190
2050 ON choice GOSUB 3570,3610,3610,3610
,3670 ' convert values to strings
2060 Ynow$=STR$(Ynow)
2070 title$="Dec "+Ynow$:x=2000+col:y=20
000-row
2080 GOSUB 3090
2090 title$="$"+para1$:x=6000+col:y=2000
0-row
2100 GOSUB 3090
2110 title$="$"+para2$:x=10000+col:y=200
00-row
2120 GOSUB 3090
2130 Ynow=Ynow+1
2140 IF choice > 1 GOTO 2160
2150 para2!=INT(para2! * (1 + para4!/100
))
2160 row=row+1100
2170 IF row<15000 GOTO 2190
2180 row=0: col=14000
2190 ON choice GOSUB 3550,3590,3590,3590
,3630 ' calculate new values
2200 month=month+1
2210 IF Ynow<Ythen GOTO 2030
2220 IF month<Mthen GOTO 2030
2230 ON choice GOSUB 3570,3610,3610,3610
,3670
2240 title$="$"+para1$:x=8000:y=25500
2250 GOSUB 3090
2260 title$="$"+para2$:x=17000:y=25500
2270 GOSUB 3090
2280 GOSUB 3210: GOSUB 3170
2290 INPUT "Are further calculations req
uired? Y/N";more$

```



```

2300 more$=UPPER$(more$)
2310 IF more$="Y" GOTO 310
2320 GOSUB 3290: GOSUB 3060 ' close workstation
2330 END
2340 REM * * * * Title subroutine for SUPER * * * *
2350 RESTORE 2390
2360 FOR title = 1 TO 15
2370 READ x,y,title$: GOSUB 3090
2380 NEXT title
2390 DATA 1300,30000,"present equity",7300,30000,"% int. rate",13300,30000,"Annual Salary",19300,30000,"% contribution",25300,30000,"% pay rise"
2400 DATA 1500,27000,"Final date",8000,27000,"Lump Sum",17000,27000,"Salary"
2410 DATA 10000,23000,"ANNUAL BALANCES",2000,21500,"Date",6000,21500,"Equity",10000,21500,"Salary"
2420 DATA 16000,21500,"Date",20000,21500,"Equity",24000,21500,"Salary"
2430 inp1$="Enter present equity and press RETURN"
2440 inp2$="Enter present salary and press RETURN"
2450 inp3$="Enter percentage of salary paid and press RETURN"
2460 inp4$="Enter expected annual % pay rise and press RETURN"
2470 RETURN
2480 RETURN
2490 REM * * * * Title subroutine for SAVINGS * * * *
2500 RESTORE 2540
2510 FOR title = 1 TO 15
2520 READ x,y,title$: GOSUB 3090
2530 NEXT title
2540 DATA 1300,30000,"Present balance",7300,30000,"% int. rate",13300,30000,"Weekly deposit",19300,30000,"Fortnightly dep",25300,30000,"Monthly dep"
2550 DATA 1500,27000,"Final date",8000,27000,"Final balance",17000,27000,"----"
2560 DATA 10000,23000,"ANNUAL BALANCES",2000,21500,"Date",6000,21500,"Balance",10000,21500,"----"
2570 DATA 16000,21500,"Date",20000,21500,"Balance",24000,21500,"----"
2580 inp1$="Enter present balance and press RETURN"
2590 inp2$="Enter weekly deposit and press RETURN"
2600 inp3$="Enter fortnightly deposit and press RETURN"
2610 inp4$="Enter monthly deposit and press RETURN"
2620 RETURN
2630 REM * * * * Title subroutine for LOANS * * * *
2640 RESTORE 2680
2650 FOR title = 1 TO 15

```

```

2660 READ x,y,title$: GOSUB 3090
2670 NEXT title
2680 DATA 1300,30000,"Amount owing",7300,30000,"% int. rate",13300,30000,"Monthly payment",19300,30000,"----",25300,30000,"----"
2690 DATA 1500,27000,"Final date",8000,27000,"Balance owing",17000,27000,"Total paid"
2700 DATA 10000,23000,"ANNUAL BALANCES",2000,21500,"Date",6000,21500,"Amt. owed",10000,21500,"Amt. paid"
2710 DATA 16000,21500,"Date",20000,21500,"Amt. owed",24000,21500,"Amt. paid"
2720 inp1$="Enter present balance and press RETURN"
2730 inp2$="Enter monthly payment and press RETURN"
2740 RETURN
3000 REM * * * * Open workstation subroutine * * * *
3010 contrl(1)=1: contrl(2)=0: contrl(4)=10
3020 RESTORE 3040: FOR i=1 TO 10: READ intin(i): NEXT
3030 GOTO 3060
3040 DATA 1,1,1,1,1,1,1,0,0,1
3050 REM * * * * GSX call subroutine * * * *
3060 CALL gsx(gsx,gsx,contrl(1),intin(1),ptsin(1),intout(1),ptsout(1))
3070 RETURN
3080 REM * * * * Print text at a location subroutine * * * *
3090 contrl(1)=8: contrl(2)=1: contrl(4)=LEN(title$)
3100 ptsin(1)=x: ptsin(2)=y
3110 FOR a=1 TO LEN(title$)
3120 intin(a) = ASC(MID$(title$,a,1))
3130 NEXT a
3140 GOSUB 3060
3150 RETURN
3160 REM * * * * Preparing for comment subroutine * * * *
3170 PRINT cursor$+comment$;CHR$(32+27);CHR$(32+5);
3180 PRINT esc$+"K";
3190 RETURN
3200 REM * * * * Preparing for input subroutine * * * *
3210 PRINT cursor$+comment$;CHR$(32+28);CHR$(32+5);
3220 PRINT esc$+"K";
3230 RETURN
3240 REM * * * * Month conversion subroutine * * * *
3250 mon$=LEFT$(month$,3)
3260 mon$=UPPER$(mon$)
3270 m=INSTR(1,cal$,mon$): RETURN
3280 REM * * * * Close workstation subroutine * * * *
3290 contrl(1)=2: contrl(2)=0: contrl(4)

```



```

=0
3300 GOTO 3060
3310 REM * * * * Draw line subroutine *
* * *
3320 contrl(1)=6: contrl(2)=2: contrl(6)
=1
3330 ptsin(1)=llx: ptsin(2)=lly: ptsin(3)
)=trx: ptsin(4)=try
3340 GOSUB 3060: RETURN
3350 REM * * * * Drawing box subroutine
* * * *
3360 contrl(1)=11: contrl(2)=2: contrl(6)
)=1
3370 ptsin(1)=llx: ptsin(2)=lly: ptsin(3)
)=trx: ptsin(4)=try
3380 GOSUB 3060
3390 RETURN
3400 REM * * * * Error trap routines for
month entry * * * *
3410 GOSUB 3170
3420 PRINT "You have entered the present
month incorrectly, press SPACE BAR to c
ontinue"
3430 WHILE INKEY$="": WEND
3440 GOSUB 3170
3450 INPUT "Enter present Month and Year
(eg.Sept, 1986) and press RETURN"; Mnow
$,Ynow$
3460 Ynow=VAL(Ynow$)
3470 RETURN
3480 GOSUB 3170
3490 PRINT "You have entered the final m
onth incorrectly, press SPACE BAR to con
tinue"
3500 WHILE INKEY$="": WEND
3510 GOSUB 3170
3520 INPUT "Enter final Month and Year (
eg.Sept, 1986) and press RETURN"; Mthen$,
Ythen$
3530 Ythen=VAL(Ythen$): title$=Mthen$+"
"+Ythen$:x=1500:y=25500: GOSUB 3090
3540 REM * * * * Parameter calculation s
ubroutines * * * *
3550 para1! = INT((para1! + para2!/12 *
para3!/100) * (1 + interest!/1200))
3560 RETURN
3570 para1$ = STR$(para1!): para2$ = STR
$(para2!)
3580 RETURN
3590 para1! = INT(para1! * (1 + interest
!/1200) + para4!)
3600 RETURN
3610 para1$ = STR$(para1!): para2$ = "--
_"
3620 RETURN
3630 para1! = INT((para1! - para2!) * (1
+ interest!/1200))
3640 paid! = INT(paid! + para2!)
3650 IF para1! < 0 GOTO 3690
3660 RETURN
3670 para1$ = STR$(para1!): para2$ = STR
$(paid!)

```

```

3680 RETURN
3690 REM * * * * Month conversion subro
utine * * * *
3700 Fmonth = 3 * month + 4
3710 Fmonth$ = MID$(cal$,Fmonth,3)
3720 GOSUB 3170
3730 PRINT "Loan will be paid off in ";F
month$;" ";Ynow
3740 GOSUB 3670
3750 title$="$"+para1$:x=8000:y=25500
3760 GOSUB 3090
3770 title$="$"+para2$:x=17000:y=25500
3780 GOSUB 3090
3790 GOSUB 3210
3800 PRINT "Press SPACE BAR to continue"
3810 WHILE INKEY$ = "": WEND
3820 GOTO 2280

```

We can't put your name up in lights, but we can put it into print.

We know there are many PCW owners who have managed to unearth some very handy tips, but are keeping them to themselves.

SHAME!

We also know that there are many PCW owners who have written small utilities and games but are keeping them to themselves.

SHAME!

Your discoveries (or your name!) will never see the light of day unless you communicate with The AMSTRAD User.

SHARE!

To avoid "Typnig Errors" your program s should be sent on disc (these will be returned), along with the relevant documentation, to:
**Suite 1, 245 Springvale Road
 Glen Waverley, Vic 3150**

CP/M Revisited

A Primer for beginners - Part Five

from Fred Robertson-Mudie

Continuing the discussion of Public Domain CP/M 2.2 Transient Programs, this month we will look at LSWEEP.COM and its associated Document file LSWEEP.DOC.

There are many files available in the public domain with the extension LBR. These are Library programs, and are designed to allow a number of related files to be collected together to form a single file. For example, a file called ASM.LBR could be a collection of the following:

ASM.COM (A command file)
 ASM.ASM (An assembly listing)
 ASM.DQC (A squeezed document file)
 ASM.HEX (A Hex file)

The use of a Library file to contain all these programs as a single unit is useful in that, for example, it keeps related files together, it takes up less directory space, it takes up a little less disc space and, if downloaded from a bulletin board, or otherwise copied, it only requires one operation rather than (as would be the case in our example file ASM.LBR) four. The actual compiling of Library files will be covered in a later part of this series but, for the moment, discussion will be confined to the use of LSWEEP.

LSWEEP is a utility which allows the user to either view a (viewable) file within a Library file without extracting (or unsqueezing) it, and/or to extract and, if necessary, unsqueeze a file from the Library. The program is simple to use though, unlike NSWEEP, it requires the name of the Library file to be accessed to be entered as well. Using the above example file, ASM.LBR, the program is used as follows:

```
A>LSWEEP ASM.LBR <Enter>
```

After entering the command, along with the Library filename, the following will be displayed:

```
A>lsweep asm.lbr
```

```

                LSWEEP
          Ver:1.03  84-22-01
          Joe Vogler
    Derived from: LDIR & LTYPE
```

COMMANDS:

```

? - Displays this menu.
E - Extracts (and unsqueezes) a member.
V - Views a (viewable) file.
X - Exits this program.
    Any other input skips to the next member
```

This is followed by information about the number of entries in ASM.LBR and details of the first entry.

The remaining entries in the Library can be displayed by hitting any other key (except ? E V or X). To view or extract a file it is simply a case of entering V or E respectively at the program prompt. Entering a ? re-displays the command menu and X will cause a return to CP/M.

If LSWEEP is entered on its own, i.e. without specifying a Library file, a short paragraph will be displayed showing the correct syntax to use for the program.

Again, a simple but very useful program, but read the document file and practice with it on a blank disc along with a couple of Library files. Nothing can possibly go wrong, but be sure to have plenty of room on the disc as some Library files can, after extracting and unsqueezing the contents, quickly fill up a disc. If a disc happens to be full, a message stating this will be displayed and the file will not be extracted, but no harm can possibly be done to either the disc, the Library program or any other programs on the disc.

The only caution that needs to be exercised is to check through the contents of the Library file before extracting any files, just in case it contains a file with the same name as one already on the disc. As the files are extracted individually, either don't extract the file with the same name as the one on the disc, or rename the one on the disc. If this point is overlooked, the file already on the disc with the same name will be erased.

In addition to the common use of Library files on Bulletin Boards, there are many more public domain software programs being downloaded and copied onto Amstrad 3" discs and an increasing number of useful programs are only liable to be available in Library files in the first instance. This program is, therefore, one that is well worth having a copy of in your CP/M collection.

As a final example of the usefulness of NSWEEP (discussed last month) and LSWEEP, the Software Library (at the Canberra Amstrad User's Group) has a copy of a file called CPMNOTES.LBR. This file comprises the first six parts of this series of articles. Each part has been squeezed, using NSWEEP, and placed in this library (LBR) file and now takes up 24K instead of the original 43K, a saving of approximately 44% of disc space. It can, of course, be accessed using LSWEEP, as outlined above. If you don't have any LBR files, get a copy of this one to practice on.

Next month, Fred looks at UKM7.COM - the Public Domain communications program.

Making the Amstrad RS232 user friendly

A Utility from Andrew Martin

This program simply provides a more acceptable face to some of the commands held in the Amstrad RS232 ROM. But beware - it will not work with any other RS232.

Terminal mode as provided by the RS232 ROM is generally not very effective when used with bulletin boards as it is not Christianson protocol compatible, a standard which most boards require. Therefore it is of most use between Amstrad computer users, both of whom are using the Amstrad RS232.

The same applies to SUCK and BLOW. In addition, SUCK and BLOW are a little finicky to use and will require some practice. Unless you do not have a disc drive I recommend you use MODEM9.COM which is now widely available from user groups etc. MODEM9.COM provides Christianson compatible Terminal, Send and Receive files etc. and is suitable for use between Bulletin Boards, other computers etc.

I have not yet worked out a way to have the program send a Viatel customer number automatically - perhaps you might like to try. The Viatel menu is reached by pressing the break key twice when on Viatel. The Viatel screen that is saved only takes 2K of disc space and is therefore obviously not a screen dump. You will save the Viatel screen that was being displayed when you pressed the break key.

A word of warning. Some of the RS232 operations, in particular SUCK will not terminate until an end of file code has been received. There is no check for the break key so it is impossible to break out from it. I have resorted to picking up the phone and asking the person sending a file to go into terminal mode and send CNTR Z to get me out of this. The alternative is to switch off the computer altogether!

Finally, you might like to pretty up the menu screens, and provide single keypress entry.

```
5 CALL &BC02
10 TX=300:RX=300:HARD$(0)="OFF":HARD$(1)="ON":DATAB=8:PAR$(0)="NONE":PAR$(1)="EVEN":PAR$(2)="ODD":STOPB=0
20 ON BREAK GOSUB 410
50 term=0:MODE 2:SETSIO,TX,RX,HARD,DATAB,PAR,STOPB
55 PRINT STRING$(80,"-"):LOCATE 20,2:PRINT"AMSCOM SOFTWARE FOR AMSTRAD RS232":LOCATE 29,3:PRINT"Andrew Martin 1987":PRINT STRING$(80,"-"):PRINT:PRINT
60 PRINT"1.Terminal mode"
70 PRINT"2.Change parameters"
80 PRINT"3.Suck/Blow"
90 PRINT"4.Viatel"
100 PRINT"5.Load Viatel Screen"
110 PRINT:INPUT "1 to 5 ",a:IF A<1 OR A>5
```

```
THEN PRINT CHR$(7):GOTO 50
120 ON a GOSUB 140,190,320,380,430
130 GOTO 50
140 REM *****: terminal mode :*****
150 term=1
170 MODE 2:HALFDUPLEX:TERMINAL
180 RETURN
190 REM *****:change params :*****
200 MODE 2:PRINT STRING$(80,"=")
210 LOCATE 30,2:PRINT CHR$(24);"Change Parameters";CHR$(24):PRINT STRING$(80,"=")
220 PRINT:PRINT"1.TX=";TX:PRINT"2.RX=";RX:PRINT"3.HARDWARE=";HARD$(HARD):PRINT"4.DATABITS=";DATAB:PRINT"5.PARITY=";PAR$(PAR):PRINT"6.STOPBITS=";STOPB
230 PRINT:INPUT "CHANGE 1 TO 6 ",B:IF b=0 THEN RETURN ELSE ON b GOSUB 250,260,270,280,290,300
240 GOTO 190
250 IF B=1 THEN INPUT"TX=";TX:RETURN
260 IF b=2 THEN INPUT"RX=";RX:RETURN
270 IF B=3 THEN INPUT"HARDWARE (0=OFF:1=ON)";HARD:RETURN
280 IF B=4 THEN INPUT"DATABITS=(5 TO 8)",DATAB:RETURN
290 IF B=5 THEN INPUT "PARITY=(0=NONE:1=EVEN:2=ODD)";PAR:RETURN
300 IF B=6 THEN INPUT"STOPBITS=(1 OR 2)";STOPB:RETURN
310 RETURN
320 REM *****: SUCK/BLOW :*****
330 MODE 2:PRINT STRING$(80,"="):LOCATE 30,2:PRINT CHR$(24);" SUCK/BLOW ";CHR$(24):PRINT STRING$(80,"=")
340 PRINT"1.SUCK":PRINT"2.BLOW":CAT:INPUT "SELECT 1 OR 2 ",C:IF C<1 OR C>2 THEN PRINT CHR$(7):GOTO 320
350 IF C=1 THEN PRINT:INPUT "NAME OF FILE TO SUCK ";NAME$:PRINT"PREPARE THEN PRESS ANY KEY ":CALL &BB18:
360 IF c=1 THEN !SUCK,@NAME$:RETURN
370 IF C=2 THEN PRINT:INPUT "NAME OF FILE TO BLOW ";NAME$:PRINT"PREPARE THEN PRESS ANY KEY ":CALL &BB18:;BLOW,@NAME$:RETURN
380 REM *****: viatel :*****
390 PRINT"Viatel data:":PRINT"Customer number <your number>":PRINT"Password <your password>":CALL &BB18
400 !SETSIO,75,1200,0,7,1,1
404 !PRESTEL
405 IF act=3 THEN MODE 2:GOTO 60 ELSE 404
410 CALL &BC02:MODE 2:PRINT"1. Load Viatel screen":PRINT"2. Save Viatel Screen":PRINT"3. Return to main menu":INPUT act
420 IF act<0 OR act>3 THEN 410 ELSE ON act GOTO 430,460,405
430 MODE 2:CAT:INPUT "Load screen ";a$:!LOADPRESTEL,@a$:MODE 0:REFRESH:CALL &BB18:CALL &BC02:RETURN
460 PRINT"DISC READY ? (ANY KEY WHEN READY)":CALL &BB18:INPUT "NAME OF FILE ";NAME$:SAVEPRESTEL,@NAME$:CALL &BC02:REFRESH:RETURN
470 IF term=1 THEN !FULLDUPLEX:RETURN
480 MODE 2:INK 1,26:RETURN
```


HARDWARE SCROLLING

How it can be used in Basic programs

Although colour modulators have long since ceased to be imported due to incompatibility problems, there is a legacy of users in Australia who operate this piece of equipment with a separate colour television instead of the Amstrad monitor. Most will tell you that the quality is less than adequate and the graphics in games is pitiful.

With this background in mind, we can tell you that a particular problem with Elite's Ghost and Goblins has reared its ugly head. (Don't panic - remember, we are talking about using the game through a colour TV and modulator). What happens is that the loading picture comes up in colour but when the game is started it reverts to black and white. (It works normally on a standard Amstrad system).

As the problem is caused by some clever scrolling techniques, it seems a good idea to look at scrolling in general and 'the problem' in particular.

INTRODUCTION

Vertical scrolling is very easy, and there's no real problem adding it to Basic games. This program illustrates scrolling the screen up and down.

```
10 x.coord=POS(0#):y.coord=VPOS(#0) 'stores
cursor position
20 LOCATE 1,1 'moves cursor to top of screen
30 PRINT CHR$(11) 'moves cursor up one line,
forcing screen to scroll down
35 WHILE INKEY$="":WEND 'waits for you to
press a key
40 LOCATE 1,25 'cursor to bottom of screen
50 PRINT CHR$(10) 'moves cursor down one line
forcing screen to scroll up
60 LOCATE x.coord,y.coord 'restores previous
cursor position
```

This doesn't do anything very impressive, but you should be able to get the general idea from the comments on each line.

Horizontal scrolling isn't anywhere near so easy. If you want to scroll the screen sideways from Basic you'll need to use the OUT command, which sends a number to a peripheral chip. That'll be enough to put quite a lot of people off, but it isn't too difficult. The only problem is that it messes up the way Arnold writes things to the screen. This listing should give you an idea of what I mean:

```
10 MODE 2
```

```
20 FOR a=1 to 25
30 CALL &BD19 ' could use FRAME on 664/6128
40 OUT &BC00,13
50 OUT &BD00,a
60 NEXT a
70 LOCATE 1,1
80 PRINT "This should be in the top left corner"
```

As you'll see if you run this, Arnold can't cope with the changes you've made. All printing carries on as if the screen was still unscrolled. To get your screen back to normal you can either type MODE 2, or force a vertical scroll using the cursor keys.

This last point is another reason why the OUT method of horizontal scrolling doesn't work too well. Every time you force a vertical scroll using the simple method we started with, you undo any horizontal scrolling you've done using OUT.

Horizontal scrolling is much easier if you know a little machine-code. Two firmware routines make the programming very easy indeed, and they let Arnold know what you're doing so he can print to the screen properly.

NON-TECHNICAL

To start with, here's a Basic program which uses the firmware routines. You don't need to know a thing about machine-code to use them, but there's an explanation afterwards for anyone who's interested.

```
10 DATA &CD,&0B,&BC,&23,&23,&C3,&05,&BC
20 DATA &CD,&0B,&BC,&2B,&2B,&C3,&05,&BC
30 oldmem=HIMEM:MEMORY (oldmem-16) 'makes
room for machine code
40 FOR a=HIMEM+1 TO oldmem 'this loop
50 READ b:POKE a,b 'pokes in
60 NEXT a 'the machine code
70 scleft=HIMEM+1:scright=HIMEM+9
80 FOR c=1 TO 100
90 CALL &BD19 'same as 664/6128 FRAME
command
100 CALL scleft 'scrolls left
110 NEXT c
120 FOR c=1 to 75
130 CALL &BD19
140 CALL scright 'scrolls right
150 NEXT c
160 LOCATE 1,1
170 PRINT "This IS in the top left corner
180 MEMORY oldmem 'reclaims space used for
machine code
```


The important bits of the program are lines 10 to 70 which set up the scroll routines, and line 180 which dismantles them after you've finished with them. If you start your program with the commands in lines 10-70 and finish with the MEMORY command from line 180, you can use the commands *CALL scleft* and *CALL scright* whenever you want to scroll the screen left or right.

BOFFINS ONLY

That's all you need to know to use the routines from Basic. If you're interested though, here's how the first routine disassembles:

```
scleft: CALL &BCOC          ;SCR-GET-LOCATION
        ;No entry conditions -- on exit, HL
        ;contains the current 'screen offset'
        INC HL              ;Increases HL
        INC HL              ;by two
        JP &BC05            ;SCR-SET-OFFSET
        ;Value in HL is used as new 'screen
        ;offset'.
```

The second one's the same, but with DECs instead of INCs. In other words, one increases the 'screen offset' by two and the other decreases it by two.

Clearly the screen offset is the key to horizontal scrolling - increase it by two to scroll left a fortieth of a screen's width, or decrease it by two to scroll right. It's also, incidentally, the key to vertical hardware scrolling from machine-code. Increase the offset by 80 (decimal) to scroll up one line, or decrease it similarly to scroll down. This accounts for something you'll have noticed with the Basic horizontal-scroll program: scrolling left or right by a whole screenful also scrolls the screen up or down one line.

None of this tells you what the screen offset actually is, but we'd be here all day if I tried explaining that. If you're really keen to know about such things get hold of Amsoft's CPC *Firmware Guide*, read it and inwardly digest it. Once you've done that, you'll be ready for the technical stuff that follows.

GHOSTS AND GOBLINS

Now on to that horrifying saga of colour modulators producing black-and-white pictures. This isn't a change of subject though, since it turns out that a clever scrolling technique is the culprit.

The modulator simply converts the RGB (red-green-blue) signal which most TV sets require through their antenna socket. For *Ghosts and Goblins* to mess up the modulator output, it had to be doing some very strange things with the RGB signal.

Needless to say, it was. To be precise it was moving the 'logical' screen (ie. the picture of the ghosts, goblins etc) backwards and forwards across the surface of the 'physical' screen (ie. the hard glass bit you look at). You can see this effect for yourself, with this little bit of Basic. It replaces lines 80-180 of the poked-in machine-code horizontal scroll listing, so these must be deleted before typing in the new lines.

```
80 FOR a=1 TO 50
90 CALL &BD19
100 OUT &BC00,3:OUT &BD00,5
110 CALL &BD19
120 OUT &BC00,3:OUT &BD00,&BE
```

```
130 NEXT a
140 MEMORY oldmem
```

This looks ugly, and would probably give you a headache if you stared at it for too long. If you're looking at it through a modulator, it should also look distinctly colourless. (I don't have a modulator to test this, but I'm pretty sure of it.) Now you know what *Ghosts and Goblins* does, so the next question is 'Why?'

To get a smooth continuous scroll you need to make one scrolling movement every fiftieth of a second - the timing for this is handled in our scrolling programs by those CALL &BD19 statements. If there are fifty movements per second, and they each have to be at least a fortieth of the screen width, you're clearly going to scroll past a whole new screen of landscape in less than a second.

This is too fast for anything much more than reflex gameplay, though Vortex's *TLL* did quite well using these techniques. Another notable hardware scroller was Gremlin's *Thing on a Spring*, though there were slight problems at the screen edges on this one.

For the most part games programmers use either software scrolling or what you might call 'burst' scrolling. Software scroll only works well on very small windows (eg *Rambo*, *Stainless Steel*) and causes an ugly rippling effect if used on large areas - *Bounder* and the tank stage of *Beach-Head* are cases in point.

The preferred technique is 'burst' scrolling - keeping the screen fixed until the player reaches the edge of it, and then fast-scrolling the next screen into position. Prime examples of this are *Green Beret* and *Thrust*. This is still far from perfect, and it was an attempt to improve on this that brought *Ghosts and Goblins* its problems.

THE 'SOLUTION'

The aim in *Ghosts and Goblins* was to provide a slow hardware scroll, so that the 'burst' scrolling wouldn't be so abrupt as it is in, for example, *Green Beret*. The method used involved both scrolling the screen and moving it. If you've typed in the program so far, you can get a *Ghosts and Goblins*-style scroll by altering line 100 as shown below. If you haven't, here it is in full:

```
10 DATA &CD,&0B,&BC,&23,&23,&C3,&05,&BC
20 DATA &CD &0B,&BC,&2B,&2B,&C3,&05,&BC
30 oldmem=HIMEM:MEMORY (oldmem-16)
40 FOR a=HIMEM+1 TO oldmem
50 READ b:POKE a,b
60 NEXT a
70 scleft=HIMEM+1:scright=HIMEM+9
80 FOR a=1 TO 50
90 CALL &BD19
100 CALL scleft:OUT&BC00,3:OUT &BD00,5
110 CALL &BD19
120 OUT &BC00,3:OUT &BD00,&BE
130 NEXT a
140 MEMORY oldmem
```

The OUT commands in lines 100 and 120 move the screen left and right by an eightieth of its width - you'll have seen this already if you've been typing things in and running them as you've been reading. (Note that 'moving' is not the same as 'scrolling' - I'll explain the difference in a minute.) The difference now is that 'CALL scleft' in line 100.

The CALL in line 100 scrolls the screen left by a fortieth of its width, and the OUTs move it back to the right by an eightieth: net result, a scroll/move of an eightieth to the left. A fiftieth of a second later the OUTs in line 120 move the screen to the left by an eightieth. After another fiftieth of a second line 100 scrolls/moves the screen another eightieth to the left, and so on.

If you've still got the default colours on screen you won't be able to see this happening: it just looks like a slow smooth scroll. Set the border and screen background to different colours and you'll be able to see what's happening quite clearly - the left and right edges of the screen blur where it's being moved rapidly from side to side. Here 'moving' literally means changing where the detailed picture part of Arnold's display appears on the glass tube of the monitor.

NOW YOU TRY IT

This method is a very nice way of halving the scroll speed without losing smoothness, and could usefully be applied to Basic versions of *Scramble* and similar scrolling games. You'd need to do the timing with the EVERY command rather than using CALL &BD19 or FRAME, and make sure the scroll/move commands were on a higher timer priority than any other interrupt-driven sequence you had running.

Another good idea is to blank off the blurred columns at each side alternatively - the right-hand one at line 100 and the left-hand one at line 120. If you set these to the same colour as the border you cut the apparent screen width down a little, but the loss of that unsightly 'edge-flicker' more than makes up for this.

If you can make a decent scrolling game out of any of this, why not send it in? Make sure you keep it short under 3K if possible - and give it plenty of grab-factor. Otherwise it's up to you: knock our socks off and we'll print your program!

BUT BEAR IN MIND . . .

There are problems with this kind of technique. For one thing, OUTs like the ones in lines 100-120 bypass Arnold's firmware. In this case they work on all the machines I can find to try them on, but you can't run crying to Alan Sugar if you get compatibility problems - Amsoft advises software houses not to use them.

More seriously, it looks like Amstrad's modulators can't produce a colour TV signal out of this kind of monitor input. One (non-Elite) programmer I met put it down to the poor quality of the Amstrad units. If this is true it's not exactly surprising: after all, Amstrad keeps costs down by cutting specifications fine. Amstrad can hardly be blamed if it can't cope with *Ghosts and Goblins*.

That's certainly not to say that Elite is to blame: indeed I'd say the company has been unlucky. I don't think anyone in the industry expected this kind of problem, and other houses are just grateful it didn't happen to them.

Moral: Those who live on the cutting edge of technology will be sacrificed upon it, as Adam Osborne said. Or they get a bit of bad publicity, at any rate.

Scrolling is a fascinating subject. If you feel that you could put together a series of articles covering the more advanced aspects of CPC graphics, please drop a line to the Editor with an outline of your ideas.

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THE VIDI VIDEO DIGITISER

Could this be the add-on of the century? Judge for yourself!

Vidi, as it's affectionately termed, is a video digitizer. In layman's terms, it's a black box that will 'grab' an image seen through a television camera or even a picture from your video recorder and store it as numbers in your Amstrad's memory. From there you can reproduce it on your monitor.

The people to thank for this ingenuity are Rombo Productions of Livingston, Scotland. The same small company - Colin Faulkner, Marcus Sharp and Keith Wilson - about 18 months ago brought out the highly successful rom board called Rombo - in my opinion the best one available

Vidi is very similar in appearance to the Rombo. It comes in a neat black box with a length of ribbon cable allowing for easy connection to any of the CPC range. There are two through connectors: one is at the end of the ribbon cable, and the other is on the circuit board inside the Vidi. This lets you use other peripherals devices that don't have through-connectors (and we all know the guilty party concerned)

More importantly, what does it do and how?

Vidi contains its own CRT (cathode-ray tube) controller. Arnold contains an identical one.

Among the Vidi's circuitry are two banks of 8k ram (random-access memory), giving it 16k of video ram. This enables Vidi to obtain a single frame of animation from either a video tape or video camera. On completion of this grab, the Vidi ram is read into the computer's own screen ram.

Operation time for this is approximately 300 milliseconds. This gives a sequence of three pictures a second, which is more than adequate for most applications.

Software to enable the grabbing or digitizing of video pictures comes in various formats: rom, disc or cassette. The software is supplied as RSXs (resident system extensions) or rom (read-only memory) external commands, which allows users to customise their Vidi setup.

Right, let's connect up!

The edge-connector at the end of the Vidi ribbon cable is attached to the Amstrad's expansion port. Take care as it is not impossible to insert it upside-down. If you possess a romboard, plug the Vidi rom into a clear socket and switch on. Alternatively, load the software into memory - you should be ready to roll!

A cable included with the Vidi frame grabber is fitted with RCA (phono) and BNC (video) connectors. The phono end plugs into a socket on Vidi clearly marked 'video in'. Likewise the video plug goes to the 'video out' socket on your video recorder or video camera.

In case of difficulty, this next paragraph may be of some help. If, for example, you have a problem with the connections (in other words, if they don't fit), check that the Video Out is actually composite video and not RGB or modulated RF, RGB signals can be converted to composite with a suitable patch lead - this is where your dealer comes in handy! With RF signals, I'm afraid you are stuck, as Vidi cannot cope with these. Several makes of video recorder are fitted with phono sockets rather than BNC for Video Out - no problem here, for the correct cables are readily available from hi-fi shops. (Consider yourself lucky with a phono plug rather than BNC; the latter tend to lose their bits and cost a lot.)

Hopefully you are by now correctly set up and ready to play with your new toy. Let's look at the software.

You should find several new commands at your disposal. These are accessed via external commands, which are prefixed by the | symbol (this attainable by pressing Shift and @. There are a host of useful commands, the most comprehensive being | VIDEO.

Typing this command should have you staring at a mode-1 screen from your video camera or recorder. It's being continually updated, approximately three times a second. The smooth action on an ordinary television screen results from 50 scans a second, so the effect of Vidi with | VIDEO is rather

like a disco under strobelights.

At the bottom of the screen is a status line showing various parameter settings:

```
Con07 Bri07 ↑064 Mode 1
Ink00=00 Sav Prt
```

One of these will be highlighted with a cursor. The cursor is easily moved using a joystick or the arrow (cursor) keys.

'Con' is the first option. Con varies the contrast through a range from 0 to 15. Zero causes the greatest difference between light and dark signals. To alter values for Con and its associates, move cursor keys or joystick up or down.

'Bri' stands for Brightness. A value of zero displays much of the picture in dark, while 15 has the opposite effect.

Hardware analogue controls supplement Con and Bri: there are tiny variable resistors on the circuit board, which you adjust with a small screwdriver. However you should not need to. These controls do not actually modify the video signal, but rather the sampling width and sampling level respectively.

Television and video use 'interlaced frames' to produce an image on the screen. With this system 625 lines are displayed; the pictures are actually produced by successive scans of 312 and 313 lines, or 'odd' and 'even' frames. On the Amstrad CPCs, only 200 lines may be displayed. This problem is overcome by 'windowing' onto an area of the image produced by the video camera or recorder. This window is set by the vertical position indicator, "Vpos". The three digits following are the number of lines offset at the top of the picture. Moving along, we encounter 'Mode'. The modes available are 0, 1 and 2. Selecting mode 0 appears to have no effect - in fact it will display as mode 1 until either a 'Sav' or 'Prt'

command is issued. The reason for this is that Vidi is designed to grab frames in modes 1 or 2. Thus to obtain a mode 0 image, several screens in succession must be integrated to synthesize the picture. This is done by reading 16 screens in mode 2. Each time a screen is read, the brightness control is increased. By taking note of the brightness setting, Vidi can switch on a group of pixels, hence assigning a mode 0 ink to it.

One drawback of using this method is that the required image must be perfectly still. Otherwise a blurred picture will result. Vidi was designed to work in modes 1 and 2; the mode 0 routine was included because, given the right conditions, excellent printouts can be produced. This would be easy with videotaped images.

The 'Ink' command will do the obvious: alter the colour in any ink pot. If the ink number is moved up or down, the relevant colour number will be displayed in the next box.

Moving the cursor to the box displaying the colour number lets you alter its value - a range from 0 to 26. The ink numbers reflect the mode chosen, so in mode 2 only inks 0 and 1 can be used, and in mode 1 only inks 0,1,2 and 3 are changeable.

'Sav' saves the screen image to either disc or tape. It is possible to save screen images in rapid succession. The filename you select will have a number following it, incremented with each successive save.

The 'Prt' command will grab a screen in the current mode and dump it to a dot-matrix printer. Epson-compatible printers and the Amstrad DMP2000 are catered for. Mode 1 and 2 screens are printed normally across the page, whereas a mode 0 image is turned 90 degrees on the page.

Pressing Escape at any time will exit you from |VIDEO. All the parameters set while |VIDEO was

in operation will remain intact - even upon re-entry.

The other bar-commands perform essentially the same function as features available from the |VIDEO menu.

|VGRAB, as its name implies, gets a single frame using the current settings. The screen mode is not reset, thus allowing the user to use this command repeatedly without screen blanking. One thing to beware, though, is that |VGRAB works on absolute addresses; therefore the screen should not be scrolled.

Here is a list of other bar-commands at your service. Follow them with a comma and the value you wish to set them to:

CON, x	set contrast (x ranges from 0 to 15)
BRI, x	set brightness (0 to 15)
VPOS, x	set vertical position (0,1 or 2 only)
VMODE, x,	set grab mode (0,1 or 2 only)
VINK, x, y	set ink x to colour y
VPRINT	print hard copy in current VMODE

There is one other command, |VCONVERT. With it inks 2 and 3 swap colour. Its main purpose in life is for printer or graphic routines that expect shades to be in the order 0123. As a result of its hardware configuration Vidi picks up shades in the order 0132, with 0 the darkest and 3 the lightest. Some print-dump routines cannot cope with this - thus the command |VCONVERT.

Enhancements are on the way for the Vidi software, so say the Rombo programmers.

- true colour, which will work by taking a series of frames through red, green and blue filters
- mode 0 from mode 1, thus greatly speeding up synthesis time
- series grab, enabling 6128 owners to grab a series of frames in

the extra bank of ram before saving - animation sequences may even be possible!

If that wasn't enough to whet your appetite, the hard-working Rombo team has promised to make screens compatible with Rainbird's Art Studio. This will unleash untold power to your disposal - imagine the fun you could have distorting facial images!

The most exciting is yet to come: using a smaller screen size, they hope to have Vidi producing 10 frames a second. This will give much smoother animation and will really push Arnold to his limits.

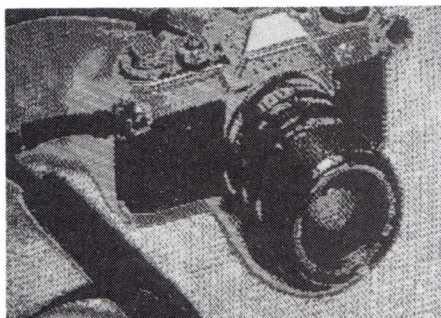
You may have gathered I am head-over-heels with Vidi. It opens up a completely new area for experimentation and enjoyment. It's a stunning new product.

GOOD NEWS

- Digitize up to three frames a second
- Colour, mode contrast under full control
- Excellent printer-dump routine included
- Well-written, easy-to-follow manual

BAD NEWS

- You will need a video recorder or camera
- Can't receive television images (RF signals)
- Takes long time to generate mode 0 screen
- Will keep you away from work



TAU HALL OF FAME

GAME	SCORE/TIME	ACHIEVER
Airwolf	1500/25 mins	Heath Corcoran
Alien 8	4 valves/no time spec.	Shannon Reynolds
Android One	9030/no time specified	Robert Baxter
Assault on Pt. Stanley	13970/19 mins	Adam Menz
Atom Smasher	940/6 mins	John Baxter
Battle for Midway	8 carriers:speed 1:level 3	Steve Alatakis
Beach Head	132500/16 mins	Anthony Eden
Bomb Jack	1235960/15 mins	John Dawson
Bruce Lee	222075/43.5 mins	Mark Davie
Chuckie Egg	415570/60 mins	Tony Barberi
Codename Mat	23370/120 mins	Brent Milner
Combat Lynx	81450/no time specified	Steve Alatakis
Commando	372300/no time specified	John Madden
Decathlon	1232800/178 mins	Dale Derksen
Defend or Die	797175/33 mins	Stephen Colley
Dragons Gold	1830/5 mins	Robert Baxter
Er-Bert	68350/21 mins	Anthony Eden
Evasive Action	1418/7 mins	Melissa Baxter
Fantastic Voyage	100%/36 mins	Matthew Schuback
Galactic Plague	150600/55 mins	Donna Watmough
Gilligan's Gold	243923/35 mins	Keith Watmough
Ghostbusters	\$48800/30 mins	Paul Schmidt
Grand Prix Rally II	59367/13.5 mins	Allan Etherington
Green Beret	521280/100 mins	Carl Allen
Harrier Attack	337600/14.5 mins	Michael Hopkirk
Haunted Hedges	466460/35 mins	Lorraine Martin
High Rise	13530/15 mins	John Baxter
Hunchback	552600/no time specified	Tony Barberi
Hunter Killer	17/67 mins	Chris Catalfamo
Jet Set Willy	54 items/14 mins	Simon Przewloka
Knight Lore	98%/44 mins	Umut Akcelik
Kong Strikes Back	284600/40 mins	Malcolm Fraser
Maze Eater	18640/8 mins	Robert Baxter
Minder	\$17749/no time specified	Steve Alatakis
Moonbuggy	160110/no time specified	A. Kippenberger
On the run	43826/29 mins	Nicholas Moger
Raid	416950/26 mins	Allan Etherington
Roland in the Caves	9748815/6 mins	Anthony Eden
Roland goes Digging	\$805.65/45 mins	David Thomas
Roland on the Ropes	1211600/275 mins	Brad McGinniss
Roland in Space	60%/40 mins	Paul Schmidt
Roland in Time	72/18 mins	Paul Azzopardi
Scout Steps Out	7737/10 mins	Robert Baxter
Sorcery	92500/15 mins	Mike Nicolai
Sorcery +	221874/no time specified	G. Falkenberg
Space Hawks	74100/5 mins	Andrew Coppens
Spannerman	58200/20 mins	Rowland Hayes
Splat	7280/45 mins	Neil Campbell
Star Commando	236980/91 mins	Glenn Preston
Survivor	223160/19.5 mins	Alex Smyth
Way of Exp. Fist	558900/66 mins	Gavern Cherry
Wild Bunch	13071/no time specified	Damien Elliott
Yie Ar Kung Fu	8112260/3 hours	Roger Hall
Zorro	999900/32 mins	Jason Scott
3-D Monster Chase	1320:7 keys/7 mins	Adam Broadway

To get your name on this list see Page 18

GALLIMAUFRY II

Another selection of short programs

Yes, another batch of short, yet, clever programs which illustrate the power and versatility of your Amstrad CPC machine.

KALEIDOSCOPE

There are virtually endless variations of patterns in this program from Alex Gough. A great deal can be user controlled; the best idea is to try different parameters yourself.

Once the pattern has been completed, the computer will beep rudely at you. Pressing N takes you to the beginning of the program; S will save the screen picture to tape or disc.

```

1 'Kaleidoscope
2 'Alex Gough
3 The Amstrad User Mar 87
4 '
10 MODE 1:INK 14,0:INK 15,2
20 INPUT"GRAPHICS MODE(0 1 or 3): ";m
30 INPUT"OVERALL SIZE(5-30): ";f
40 INPUT"NO. OF REPETITIONS: ";e
50 INPUT"NO. OF SIZE INCREMENTS: ";g
60 INPUT"NO. OF LINES PER BLOCK: ";d
70 INPUT"LENGTH OF LINES: ";c
80 PRINT CHR$(23);CHR$(m)
90 MODE 0:ORIGIN 320,200
100 CLS:FOR z=1 TO e:FOR a=1 TO g
110 x=INT(RND*f)*a:y=INT(RND*f)*a
120 xx=INT(RND*f)*a:yy=INT(RND*f)*a
130 p=INT(RND*15)+1
140 FOR b=1 TO d
150 PLOT x+b*c,y+b*c,p
160 DRAW xx+b*c,yy+b*c
170 PLOT -x-b*c,y+b*c
180 DRAW -xx-b*c,yy+b*c
190 PLOT x+b*c,-y-b*c
200 DRAW xx+b*c,-yy-b*c
210 PLOT -x-b*c,-y-b*c
220 DRAW -xx-b*c,-yy-b*c
230 NEXT:NEXT:NEXT
240 SOUND 1,200,200,7
250 a$="":WHILE a$="":a$=INKEY$:WEND
260 IF LOWER$(a$)="s" THEN GOTO 290
270 IF LOWER$(a$)="n" THEN RUN
280 GOTO 100
290 SAVE"!pic",b,&C000,&4000
300 LOCATE 8,12:PRINT"ready"
310 FOR p=1 TO 600:NEXT:RUN

```

PATTERNS

An interesting program from P. Tunstall; its small size does it no justice. By typing in various parameters, the computer rapidly draws complex designs on the screen.

```

1 ' patterns
2 ' P P Tunstall
3 'The Amstrad User Mar 87
4 '
10 MODE 2:BORDER 0:INK 0,0:INK 1,13
20 PRINT"enter pattern factor (0.5 ";
30 INPUT"to 4.5 for best patterns): ",n
40 CLS:ORIGIN 320,200,0,639,450,0
50 FOR x=0 TO 130 STEP n:y=2.5*x
60 INK 1,(x/12),(x/10)
70 DRAWR y*COS(x),y*SIN(x)
80 SOUND 3,(x/3.14159),0.5,15
90 NEXT x:GOTO 20

```

FAST BASIC DOUBLE HEIGHT

This is a short and fast program from Chris Bootham. It can be easily incorporated into your own programs. Just place the string you wish to appear double-height into "s\$"; the position where you wish it to be placed on the screen should be entered into the variables "x" and "y".

```

10 'Fast basic double-height
20 'Chris Bootham
30 'The Amstrad User Mar 87
40 SYMBOL AFTER 33:MODE 1
50 s$="hello readers!":x=13:y=10
60 GOSUB 70:END
70 'print string
80 FOR w=1 TO LEN(s$)
90 IF MID$(s$,w,1)=" " THEN q$=" ":w$=q$:GOTO 140
100 m=(HIMEM+1)+(ASC(MID$(s$,w,1))-33)*8
110 SYMBOL 254,PEEK(m),PEEK(m),PEEK(m),PEEK(m+1),PEEK(m+1),PEEK(m+2),PEEK(m+2),PEEK(m+3),PEEK(m+3)
120 SYMBOL 255,PEEK(m+4),PEEK(m+4),PEEK(m+5),PEEK(m+5),PEEK(m+6),PEEK(m+6),PEEK(m+7),PEEK(m+7)
130 q$=CHR$(254):w$=CHR$(255)
140 LOCATE(x-1)+w,y:PRINT q$
141 LOCATE(x-1)+w,y+1:PRINT w$
150 NEXT w:RETURN

```


WANDERING THROUGH SPACE

This is a lovely piece of programming from Julian Smalley. It uses colour swapping techniques to give the impression that you are seated in the cockpit of a spacecraft, watching the stars flash by while the instruments whirl.

```

10 'Wandering through Space
20 'Julian Smalley
30 'The Amstrad User Mar 87
40 MODE 0:INK 15,26:DEFINT a-z
50 DEG:INK 0,0:BORDER 0
60 FOR f=1 TO 360 STEP 6
70 p=INT(RND*(14)+1)
80 FOR z=30 TO 320 STEP INT(RND*(5)+1)+5
90 PLOT 320+z*SIN(f),250+z*COS(f),p
100 p=p+1:IF p=15 THEN p=1
110 NEXT:NEXT:FOR y=1 TO 100 STEP 2
120 MOVE 1,y
130 DRAW 640,y,0:NEXT:MOVE 1,1
140 DRAW 1,399,15:DRAW 639,399,15
150 DRAW 639,1,15:MOVE 1,1
160 DRAW 1,100,15:DRAW 639,100
170 DRAW 639,1:DRAW 1,1:MOVE 20,20
180 DRAW 20,80,15:DRAW 100,80,15
190 DRAW 100,20,15:DRAW 20,20,15:p=1
200 FOR x=24 TO 98 STEP 4:MOVE x,22
210 DRAW x,50,p:DRAW x,78,(15-p)
220 p=p+1:IF p=15 THEN p=1
230 NEXT:MOVE 120,20:DRAW 120,80,15
240 DRAW 200,80,15:DRAW 200,20,15
250 DRAW 120,20,15:p=1
260 FOR y=22 TO 78 STEP 2:MOVE 124,y
270 DRAW 160,y,p:DRAW 198,y,(15-p)
280 p=p+1:IF p=15 THEN p=1
290 NEXT:p2=7:p=1
300 FOR f=1 TO 360 STEP 25.7142857
310 MOVE 260,50:DEG
320 DRAW 260+40*SIN(f),50+40*COS(f),p
330 PLOT 260+40*SIN(f),50+40*COS(f),15
340 MOVE 360,50:DEG
350 DRAW 360+40*SIN(f),50+40*COS(f),p2
360 PLOT 360+40*SIN(f),50+40*COS(f),15
370 p=p+1:IF p=15 THEN p=1
380 p2=p2+1:IF p2=15 THEN p2=1
390 NEXT:MOVE 420,20:DRAW 420,80,15
400 DRAW 480,80,15:DRAW 480,20,15
410 DRAW 420,20,15:FOR zx=1 TO 300
420 PLOT 424+INT(RND*(54)+1),22+INT(RND*(56)+1),INT(RND*(14)+1)
430 NEXT:MOVE 500,20:DRAW 500,80,15
440 DRAW 620,80,15:DRAW 620,20,15
450 DRAW 500,20,15:FOR p=1 TO 14
460 MOVE 504,50
470 DRAW 530,22+INT(RND*(56)+1),p
480 DRAW 560,22+INT(RND*(56)+1),p
490 DRAW 590,22+INT(RND*(56)+1),p
500 DRAW 618,50,p:NEXT
510 FOR f=1 TO 14:INK f,26:CALL &BD19
520 FOR d=1 TO 30:NEXT:INK f,0
530 CALL &BD19:NEXT:GOTO 510

```

We've now presented nine short programs for you to play around with. If you've got any of similar brevity let's have a look at them. They could earn you money!

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SOFTWARE REVIEWS

A critical look at some more utilities

by Chris Collins

LOCKSMITH - Beebugsoft

Once again, we strike a problem with packaging. I do not believe that what I received, simply a disc in a plastic cover and a small instruction book, is the final packaging for the products. However as that was all that I was given, I can only review them as delivered. More about my thoughts on this problem at the end of this article.

Now on with the review. According to the front page of the instruction manual, LOCKSMITH is a tape and disc transfer package for the Amstrad range of personal computers. Oh no, not again. Here is another transfer package. I wonder how many more of these types of utilities the market will stand. However, putting that aside, lets have a good look at LOCKSMITH and see if it has anything that will make it stand out from the rest of the bunch.

I put the disc into the drive of my 6128 and did a quick CAT to see what was on the disc. This revealed only four programs occupying only 15k of what appeared to be a vendor format disc. DISC.BAS appeared to be rather self explanatory. LOCKRAM1.2 and VERSION1.2 seemed to fit in with the normal run of BEEBUGSOFT programs and refer to the actual LOCKSMITH files themselves. The last file was called ROMOFF. BAS and had me foxed for a long while but I believe that it has something to do with the ROM version. This was later confirmed by reading the

instruction manual.

All that seemed none too difficult. Lets type RUN"DISC and see what happens. I sat and waited and watched in spellbound amazement as the screen cleared, the disc rotated and I was presented with the Ready prompt. It must be time to dig out the manual and find out how to drive this program.

Opening the manual, we come across the introduction, which informs us with what LOCKSMITH is supposed to be able to do. Next in the book is the loading instructions. At least I had got those right.

After a bit more reading, I find that LOCKSMITH is very much related to that other BEEBUGSOFT utility that I like to rave about, DISC DEMON. The reason that they are so related is the fact that both can be accessed by RSX commands.

Aha, here it is! Type | lock and away we go. This will bring up the main menu. This looks very similar to DISC DEMON even down to the colours, and don't some of those commands appear identical.

Now lets get down to the nitty-gritty of the package. These can be selected from the main menu, or implemented in the form of an RSX. If implemented from the main menu, all parameters will be prompted for. If instead you call the commands as an RSX, you are expected to supply all the parameters. In fact if you don't, an error code will be generated.

As with DISC DEMON, the

function keys on the numeric keypad are reset by the program. These seem to me to be a rather useful commands and include;

- :mode setting,
- :cataloguing of both drives,
- :echoing print to the printer (similar to CONTROL-P in CP/M),
- :recall of the LOCKSMITH main menu,
- :help and status.

Again BEEBUGSOFT have supplied a help command, which is called in a similar way to DISC DEMON, but with a slight twist. Very logical if you think of it. This command is very useful while you are getting to know this package.

LOCKSMITH supports five types of transfer between storage devices.

These include ;

- TAPETAPE
- TAPEDISC
- DISCDISC
- DISCCTAPE and
- BACKUP

Four of these are self evident. The fifth (BACKUP) is a type of cloning copier. There are approximately six other command available to help with your transferring problems.

These command complement those listed above and include a copier for headerless tapes, and auto and manual transferring of programs on tape, something to load protected BASIC programs and a couple that give you header and status information.

Again in LOCKSMITH we have a couple of commands that appear to

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be the same as the AMSDOS commands, but as with DISC DEMON they operate slightly differently. How differently is for you to read your instruction manual to find out.

Section Five in the manual deals with some solutions that may help you to get your transferred programs working properly. It is amazing the number of people who believe that all one has to do is transfer that favourite program from tape to disc and everything is hunky-dory. For those of you out there who think this is so, boy have I got news for you. Transferring the program is usually the easiest part of the job. This chapter only skims over some of the problems that may crop up. The best way to find the answers to these problems is just to try rewriting parts of the program until they work.

Finally in the back of the manual is a **COMMAND SUMMARY**, listing all commands, functions and parameters necessary to get all 19 commands to work properly.

All the commands appeared to work well, although there was some trouble trying to transfer a couple of the programs that I use to test these utilities. This should not be seen in a wrong light though, as to date nothing has been able to transfer them. They have beaten everything I have tried to date!

My summary of **LOCKSMITH** would have to say that this is almost what one could call a complete package. **LOCKSMITH** and **DISC DEMON** appear to complement each other very well and as both are memory resident, they will allow you to leave-work on something else and then return to them to complete whatever you were doing, simply by pressing a function key.

If you don't have any utilities of this type, then by all means buy **LOCKSMITH**. At the same time get a copy of **DISC DEMON**.

Between the two of these programs, they could be almost all the utilities that you need for your Amstrad.

CONGRATULATIONS BEEBUGSOFT!!

Just a couple of final notes. In the front of the manual, there is a warning about what can happen to programs that are in memory when you invoke a couple of commands. Read it, and **BEWARE!**

Also, do not try loading both **LOCKSMITH** and **DISC DEMON** into memory at the same time. If you load **LOCKSMITH** and then load **DISC DEMON**, the second will wipe out the first. If you load **DISC DEMON** and then try to load **LOCKSMITH**, the cassette interface will switch on and your machine will lock up, needing to be switched off to fix the problem. You have been warned.

ULTRABASE

Ultrabase is described in the 36 page instruction manual as a general purpose file management program. On the disc it consists of five programs occupying 39k; this also includes a demonstration file. Backing up the disc is no real problem with the normal **DISCKIT** program.

When loading **ULTRABASE**, after you have been presented with a simple loading screen, you are asked to setup the maximum values for fields and records in this session of use. If you simply press **ENTER**, you will be given the defaults (10 and 100). Unfortunately, these are different to what is specified in the manual.

After setting the values for records and fields, you then move onto the main menu of Ultrabase. This is where it is all supposed to start happening. A little tip at this stage that I found very useful when reviewing Ultrabase. If you press **ESC** at any time within Ultrabase, you will be returned to this main menu, very useful while

learning.

A problem does however arise from this main menu. None of the commands are mnemonics. For those of you that don't understand what this means is that an operation relates to its command.

For example, to **LOAD** a file into Ultrabase, one would use the command **'L'** by itself or in combination with another key **'CTRL-L'**. This probably wouldn't affect someone who used Ultrabase exclusively, but at times I use three different computers with seven different programs of this type. As the actual program is written in **BASIC**, I don't think that it would be all that difficult a problem to fix.

All menu options are single key inputs. Most times you will be presented with a further menu to choose from, and other times you will be given a command line to use. I personally find command lines easier to use, but menu driven systems are much easier to learn.

The main menu does cover all the commands that are necessary in any normal file management system. It does use a simple version to sort, but this is to be expected for the size of the program. However it can still sort on more than one field in a database, so it can't be all that bad.

To operate Ultrabase, you must first setup a filename on which any commands you execute can then operate. Once this is carried out, any future operations in this session will operate on the file specified. You can also change this filename at any time if you wish.

As we are trying to learn how to use Ultrabase to its best, I think that the best bet would be to use the demonstration file provided and follow the examples in the manual. This is called **PEOPLE** and is simply a small file of names and addresses. If you then follow the manual through the examples, Ultrabase appears very easy to

use. Nevertheless, some of the commands that carry out necessary maintenance on a file appear to be very convoluted in comparison to other programs of this type.

Another section of the manual is a reference section. This lists all the commands that are available, as they appear on the main menu, and then it goes into great depth to explain how each command works. It even gives you examples of use.

At the rear of the manual, are five appendices that will help you in the use of Ultrabase. These include tips on configuring your printer, warnings about memory, file backups, Date-of-birth formats as well as some other supplementary operations.

In summary, Ultrabase appears to be very easy to use. The menu system employed is a definite asset in this case. Some of the operations do appear very convoluted, but in use I don't know whether that would necessarily be the case. For such a recent program not to access

the extra 64k banks that are available is a fault, how much of a fault depends on the size of your databases. If they get too large, or you think that they might, you will require something like Masterfile128 or MasterfileIII. I do have a couple of misgivings about the command system but if you are a reasonably competent BASIC programmer, most of my misgivings could be fixed.

For the moment I believe that Beebugsoft have made a bad mistake with Ultrabase. It just isn't up to the standard of their utilities. In this case I believe that Beebugsoft should stick with the excellent utilities that it produces and improve them.

MY GRIPE ABOUT PACKAGING

You will note in this article that I have referred to the lousy packaging that has accompanied the programs that you have just read about. A lot of people might feel that this is a rather petty

whinge about something not very important. That is their prerogative. Be that as it may, I am given the task of reviewing a piece of software.

To me, that doesn't just apply to the program itself. The software also involves, to my way of thinking, the program itself, the instruction manual and any packaging. If any of these three parts is below par, I believe that YOU, the possible future purchaser of this software deserves to be told.

It is your right to know. Okay, the software itself may well be fantastic, the packaging absolutely great, but if the manual is written in such a way that it is impossible for the first time user to figure out how to use his new purchase, what good is it?

Maybe I'm wrong. I would be interested in hearing some viewpoints.

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THE LIGHTHOUSE

A Text Adventure Game - Final Part

by Philip Riley

For longer than anyone can remember the old lighthouse has stood on the Island of Lost Souls just off the coast of Southern England. And for almost as long, the sound of creaking finger joints chilled the Antipodean night air as stubborn adventurers, feverishly at first but now with energy draining, were reaching the end of their depressing task - that is depressing the keys.

```
2030 IF it(19)=500 AND c=
19 THEN PRINT"It is blunt.":GOTO 160
2040 IF it(14)=500 AND c=14 THEN PRINT"I
t is a chart of a far away land.":GOTO 1
60
2050 IF it(15)=500 AND c=15 THEN PRINT"I
t is the log book of the Marie Celeste."
:GOTO 160
2060 IF it(3)=500 AND c=3 THEN PRINT"It
gives out a feeble light. Maybe some oil
would help it alittle.":GOTO 160
2070 PRINT"You see nothing unusual.":GOT
O 160
2080 IF n=260 AND c=33 THEN PRINT"You wa
lk through the doorway and into the li
ghthouse.":n=86:GOTO 450
2090 PRINT"You can't do that at the mome
nt.":GOTO 160
2100 IF n=86 AND c=33 THEN PRINT"You wal
k out of the lighthouse through the ope
n doorway.":n=260:GOTO 450
2110 GOTO 2090
2120 IF n=271 AND t4=0 AND c=32 THEN PRI
NT"You move the stones and find a box of
";it$(10);" hidden underneath.":it(10)=
271:t4=1:GOTO 1550
2130 IF n=271 AND t4=1 AND c=32 THEN PRI
NT"You move the stones but find nothing
of any use.":GOTO 160
2140 GOTO 2090
2150 IF n=313 AND c=22 AND it(21)=500 AN
D t5=0 THEN PRINT"You smash the brick wa
ll to pieces with the ";it$(21);".";"Loo
king past the rubble you see a stone sta
irway that leads upwards into day
light.":t5=1:GOTO 160
```

```
2160 IF n=313 AND t5=0 AND c=22 AND it(2
1)<>500 THEN PRINT"You have nothing to s
mash the wall with.":GOTO 160
2170 IF (n=268 OR n=136) AND it(t)=500 A
ND (c=25 OR c=34) AND t8=0 THEN PRINT"Yo
u force the lock on the door with the ";
it$(7);". You have oned the door but y
ou have also broken the ";it$(7);"." :t8=
1:it(7)=0:GOTO 2760
2180 IF (n=268 OR n=136) AND it(7)<>500
AND (c=25 OR c=34) AND t8=0 THEN PRINT"Y
ou have nothing to force the lock.":GOTO
160
2190 IF (n=268 OR n=136) AND t8=1 AND (c
=25 OR c=34) THEN PRINT"The door is alre
ady open.":GOTO 160
2200 PRINT"You have nothing worth breaki
ng.":GOTO 160
2210 IF it(20)=500 AND it(19)=500 AND t6
=0 AND c=19 THEN PRINT"You sharpen the "
;it$(19);" on the ";it$(20);"." :t6=1:GOT
O 160
2220 IF it(20)<>500 AND it(19)=500 AND c
=19 AND t6=0 THEN PRINT"You have nothing
to sharpen it on.":GOTO 160
2230 IF it(20)=500 AND it(19)<>500 AND c
=19 AND t6=0 THEN PRINT"You have no razo
r.":GOTO 160
2240 IF it(20)=500 AND it(19)=500 AND c=
19 AND t6=1 THEN PRINT"It has already be
en sharpened.":GOTO 160
2250 PRINT"You have nothing to sharpen."
:GOTO 160
2260 IF it(19)=500 AND c=30 AND t6=1 AND
n=281 THEN PRINT"You chop the spiders w
eb to pieces with the ";it$(19);".";"The
spiders scurry away down holes in the
walls and floor.":t6=2:GOTO 160
2270 IF it(19)<>500 AND c=30 AND t6=1 AN
D n=281 THEN PRINT"You have nothing to c
ut them with.":GOTO 160
2280 IF it(19)=500 AND c=30 AND t6=1 AND
n=281 THEN PRINT"You have already cut t
he cobwebs into little pieces.":GOTO 1
60
2290 IF n=281 AND c=30 AND t1=0 AND it(1
9)=500 THEN PRINT"You try to cut the cob
webs but the razor is blunt. You disturb
the spiders and they attack you, injec
ting venom into your body with their t
eeth. You die a slow and terrible deat
h.":GOTO 1590
```



```

2300 GOTO 2090
2310 IF it(16)=500 AND c=16 AND n=222 TH
EN PRINT"You give the pirate ghost a ;"i
t$(16);".";"He looks very pleased. I thi
nk he will let continue on your journey
." :yp(222)=11:it(16)=0:yh=yh-1:GOTO 160
2320 IF it(16)<>500 AND c=16 AND n=222 T
HEN PRINT"You don't have a ";it$(16);" t
o give.":GOTO 160
2330 IF n=222 THEN PRINT"He refuses your
offer.":GOTO 160
2340 PRINT"That will not help you at all
." :GOTO 160
2350 IF it(9)=500 AND s1=0 AND c=35 THEN
PRINT"You drink the rum and soon you ar
e blinndrunk. Staggering around you fall
and crack your skull open.":GOTO 1590

2360 IF (s1=1 AND it(9)=500 AND c=35) OR
it(9)<>500 THEN PRINT"You have no rum t
o drink.":GOTO 160
2370 GOTO 2090
2380 IF it(4)<>500 THEN 2400
2390 IF c=4 AND AND n=54 THEN PRINT"You
throw the ";it$(4);"over the giant crab
and it soon becomes entangled. It soon r
uns for the safty ofthe sea. I don't thi
nk it will come backhere.":s2=1:it(4)=0:
GOTO 160
2400 PRINT"Throwing that won't help you.
":GOTO 160
2410 IF it(5)=500 AND c=36 AND s3=0 AND
n=5 THEN PRINT"You pour the weedkiller o
nto the seaweedthe seaweed instantly shr
ivels up and dies.":s3=1:GOTO 160
2420 IF s3=1 AND it(5)=500 AND c=36 THEN
PRINT"You don't have any.":GOTO 160
2430 GOTO 2090
2440 IF c>21 THEN PRINT"That item cannot
be taken at the moment.":GOTO 160
2450 IF yh>4 THEN PRINT"You are trying t
o carry too much.":GOTO 160
2460 IF c=8 THEN PRINT"You are not a bot
tle. Try something else":GOTO 160
2470 IF c=9 AND s4=2 THEN it(8)=500:yh=y
h+1:s4=1
2480 IF it(c)=n THEN PRINT"You take the
";it$(c):yh=yh+1:it(c)=500:GOTO 160
2490 c=22:GOTO 2440
2500 IF c>21 THEN PRINT"You don't have t
hat item.":GOTO 160
2510 IF c=8 AND it(8)=500 THEN PRINT"You
pour the oil away.":it(8)=0:s4=0:GOTO 1
60
2520 IF s4=1 AND c=9 THEN it(8)=n:yh=yh-
1:s4=2
2530 IF it(c)=500 THEN PRINT"You drop th
e ";it$(c):yh=yh-1:it(c)=n:GOTO 160
2540 c=22:GOTO 2500
2550 PRINT"Don't be so violent.":GOTO 16
0
2560 PRINT"Please be more specific.":GOT
O 160
2570 IF it(15)=500 AND c=15 THEN PRINT"Y
ou try to read the logbook but it has b
een dropped in some water and most of t

```

he writing is illegible. You can only m
ake out the words

```

DON'T BE A GREEDY MAN.":GOTO 160
2580 PRINT"You have nothing to read.":GO
TO 160
2590 IF t8=0 AND n=136 AND c=25 THEN PRI
NT"The door is locked.":GOTO 160
2600 PRINT"You have nothing to open.":GO
TO 160
2610 PRINT"
YOU ARE CARRYING.
":o=0:FOR t=0 TO 21: IF it(t)=500 THEN P
RINT it$(t):o=1
2620 NEXT:IF o=0 THEN PRINT"NOTHING."
2630 GOTO 160
2640 PRINT:PRINT"STARTING TO PANIC
ARE WE":PRINT"WHAT NEXT COWARD.":b$="":
GOTO 170
2650 IF n=98 THEN n=113:PRINT"You walk u
p the rough and uneven steps.":GOTO 450
2660 IF n=174 THEN n=164:PRINT"You walk
up the stone steps.":GOTO 450
2670 IF n=313 AND t5=1 THEN n=212:PRINT"
You walk up the stone steps and find
yourself in daylight.":GOTO 450
2680 IF n=86 OR n=71 THEN n=n-15:PRINT"Y
ou wlk up the stairs to the next level."
:GOTO 450
2690 GOTO 430
2700 IF n=113 THEN n=98:PRINT"You walk d
own the stairs.":GOTO 450
2710 IF n=164 THEN n=174:PRINT"You walk
down the uneven steps.":GOTO 450
2720 IF n=212 THEN n=313:PRINT"You walk
down the steps and into the dark cave
rns below.":GOTO 450
2730 IF n=56 OR n=71 THEN n=n+15:PRINT"Y
ou walk down the steps to a lower level"
:GOTO 450
2740 GOTO 430
2750 CLS:PRINT"SO YOU HAVE DECIDED TO GI
VE UP HAVE YOU.WHAT A PATHETIC FOOL YOU
ARE.":END
2760 IF n=268 THEN yp(268)=1:GOTO 160
2770 yp(136)=1:GOTO 160

```

But that's not quite the end of the story. For there are some among us who will realise their goal much more quickly by sending \$5 now for the tape. And there are even more among us who will get the tape anyway because they have a tape subscription. Oh, how the rich live! Alas, there will also be a few PCW owners who will buy the tape forgetting that they don't have a tape reader on their machine (you've gotta believe it!)

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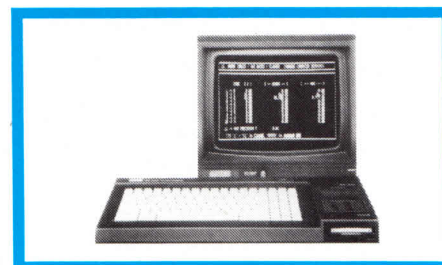
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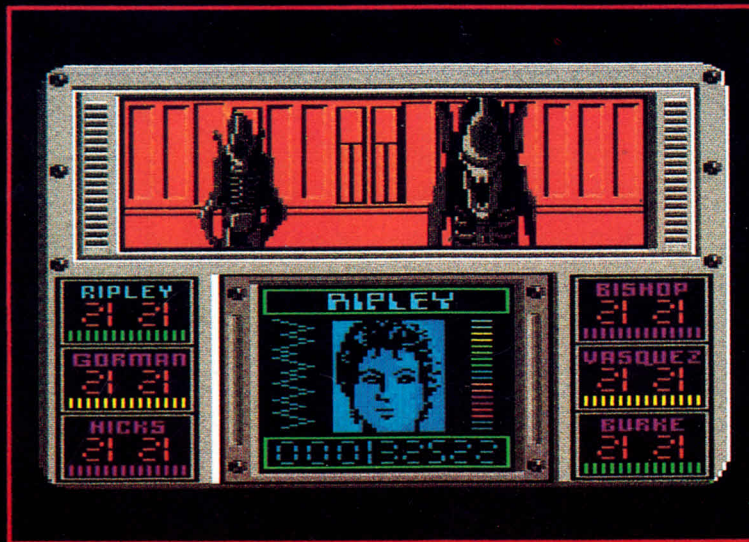
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