

The ²
Aussie Mag
for Amstrad owners

THE AMSTRAD USER

Issue No. 24

\$3.75

January 1987



- *Follow-up of the major Software Guide for PCW owners + MasterMind program + a look at GEM on the PC*
- *Reviews on Rainbird's Art Studio and Advanced Music System + four more pages of Cheats*
- *Three type-ins for CPCs + User Groups + heaps more*

FOR THE NOVICE & EXPERIENCED USER

THE AMSTRAD USER

Editorial	2
Letters - Your points of view, hints etc. to hit the Editor's desk	3
Nationwide User Groups	6
News: Bulletin Board at Burwood and Talking Signs	10
Cheat Mode	
Another four pages covering fifteen programs to cheat on	11
Art Studio	
A major review of this Rainbird package	15
Intelligent Menu	
A simple and short version to CAT, LOAD, RUN or DELETE with minimum keystrokes	
Two programs are provided by Chris Collins - for 464 and 664/6128	18

Serious Side

TIP-OFFS

At least a dozen and a half amazing revelations about the PCW 8256/8512 including the lowdown on making up a NewWord boot disc	21
--	----

PCW Software Guide

Following last month's extensive coverage of Word Processors, Utilities and Data Bases (some 30 programs in all), we now focus on another 30+ falling into the Spreadsheets, Educational, Games, Accounts and Graphics categories.	26
--	----

MasterMind

An adaptation of this popular Brainteaser, now for the PCW's from the keyboard of Arnold Goldman	33
--	----

Sandpiper File Manager

An overview of Sandpiper's database	36
-------------------------------------	----

PC Promise

An in depth review of Duncan Data Bases' data management system for IBM compatibles including the Amstrad PC1512.	37
---	----

The Joys of GEM

An exploratory look at the PC1512 environment	42
---	----

Issue No. 24

January 1987

Wired for Sound

The second part of our music special with reviews on Rainbird's Advanced Music System and Discovery's Electronic Music Utility. _____ 45

The Lighthouse

Part One of a text adventure from Philip Riley in which all sorts of horrible things could happen (especially if you don't key it in properly!) _____ 48

CP/M Revisited

A primer for beginners - Part 3 - from Fred Robertson-Mudie _____ 52

Infocom Adventures

A review by Michael Shepherd _____ 53

Personality Tester

Are you a fit and proper person to be using an Amstrad?
Find out with Edward Leach's adapted program. _____ 54

What makes Locomotive run?: more pointers from Petr Lukes _____ 59

Adventurer's Attic: Philip Riley provides the promised Encode/Decode utility _____ 61

The Book Shop and other Goodies

Including Back Copies and Year Discs _____ 63

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

Side 1: MENU464 - 10, MENU6128 - 23, LOCO2 - 35, ADENCODE - 50 Side 2: PERSONAL - 10 (8 blocks)

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.

The Amstrad User is normally published on the first working day of each month. Reprinting of articles published in The Amstrad User is strictly forbidden without written permission. Copyright 1986 by Strategy Publications. The single copy price of \$3.75 is the recommended retail price only. The subscription rate (for Australia) is

\$37.50 for 12 issues of the magazine only, or \$80.00 for 12 issues of the magazine plus tape (for CPC range only) containing programs appearing in that issue. Postage is included in the above prices. For subscriptions to New Zealand, PNG, Solomon Islands or Vanuatu please add \$21 airmail. Other overseas prices available upon application.

Please note that whilst every effort is made to ensure the accuracy of all features and listings herein, we cannot accept any liability whatsoever for any mistakes or misprints. Contributions are welcome from readers or other interested parties. In most

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

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

THE AMSTRAD USER

G'day,

As you read this issue of The Amstrad User, my family and I will be basking in the sunshine (I hope!) somewhere in the northern region of Victoria, making up for the lost weekends and late nights which these days always seem to be a necessary part of magazine publishing.

We will be entering our third year next month and looking back over the first two, your magazine has gone from strength to strength. That's not just my own assessment, but is echoed in the many letters regularly received in the office. Not many of them get published, but the words of encouragement and advice are always welcomed and appreciated.

Unlike the early days, there is now a steady stream of CPC program contributions arriving, yet as I have said before, it's never enough! More general articles hints wouldn't go amiss either. PCW owners on the other hand are too quiet (perhaps shy?) and I have yet to discover the means to unlock that source. Any suggestions?

The few people who still think that Amstrad computers were a "flash in the pan" can surely be left in no doubt that, with profits increasing by 273% to \$165 million (£75 million), Alan Sugar knows which side of his bread is buttered. 350,000 PCWs and 650,000 CPCs were sold world wide to the end of June 1986 - 57% of these were exported by his UK company. The new PC1512 has already attracted well over 100,000 orders within the first two months of release!

The popularity of your magazine has followed a similar path, monthly sales having nearly tripled compared with January 1986. The Amstrad User has unquestionably the largest circulation of any other Amstrad magazine, imported or otherwise, even though it lacks the colourful, showy, multi-ad style of it's "competitors" - strange, but true.

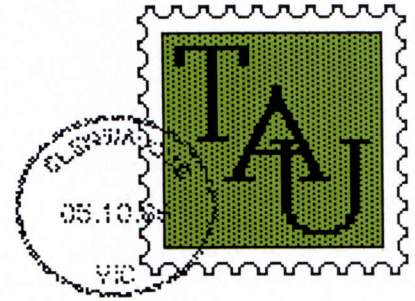
1987 promises to be an even better year!

See you next month,

Ed

Don't forget: we are back in the office on 12th January 1987.

Letters



Congratulations! Congratulations! At last an Amstrad Magazine with articles and programs I can understand. I "use" an 8512. By the time the two handbooks were studied my poor brain was saturated with names and jargon, with a disappointing amount of practical knowhow.

The November edition of the Amstrad User is EXCELLENT. The "Wordcounter" is not only useful, but demonstrates the uses of some commands and notations. It was a very useful exercise to deduce that the omission of a single 's' made the program inoperative.

Thank you Mr. Goldman for your "Super" program, especially the section, "How it Works". You have helped me a great deal to understand what is generated by program instructions, and why.

Would it be possible to have a series of articles similar to "CP/M Revisited", but, written for 8256 and 8512 users?

H. Ball, Herons Creek, N.S.W

Thank you for your kind words, and congratulate yourself for finding our 'deliberate mistake' in the Wordcounter program. OK, perhaps it wasn't deliberate, but for those who are still scratching their heads, the missing 's' occurred in line 110. More clues? It's after the THEN command. You want it exactly? The line should read IF c\$=" " AND inwd% THEN wds%=wds%+1: inwd%=0.

In reply to R. Baxter's letter in the November issue, in which he was having difficulty in finishing the game Fu Kung in Las Vegas.

In the first level, as in all the others,

you will see an arrow pointing in a direction, all you need to do is safely walk through it to progress.

I have also had trouble at finishing level no. 9. It seems impossible, any clues?

A. Craddock, Narrabri, N.S.W

I have recently purchased an Amstrad PCW 8512. I would like to ask if any reader or user group has configured 'modem 7' to run on this machine with the Amstrad interface unit. Alternatively, where can I obtain details of the 'calls' which control the interface parameters from within a program so that I can configure it myself.

I am Treasurer of the 1st Acondobolin Scout Group and am currently writing a program to manage the books on the PCW. If anyone has already done it, or is interested in the results, I would like to hear from them.

A.G. Palmer, 17 McGregor Street, Acondobolin, N.S.W

I would appreciate some advice from any of our readers about solving "The Never-ending Story" adventure - unfortunately for me it ends all too quickly!

It's a promising game but a little frustrating to find I can't progress past "The Swamps of Sadness" without becoming permanently "Bogged-down"!

Also, could you please tell me what kind of articles you are seeking for submission to this magazine, and if general users and readers such as I would be eligible to contribute?

K. Rigby, Para-Hills, S.A

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.

A majority of the articles and programs published in *The Amstrad User* are from "general users and readers" and are always welcome. We don't stipulate what should be submitted, but as a guide it should be something you feel would be of interest to other users (and that goes for PCW owners as well) and which has not been covered recently, say, over the last twelve months. Reviews, specialist articles and programs are the norm, but we are open to any other ideas.

The only thing we do stipulate is that, in respect of program submissions, the software is fully documented and tested and sent to us on a tape or disc with accompanying description and running instructions. If you need the tape or disc back, also enclose a stamped and addressed padded bag. You should also note that shorter programs are treated more favourably. Be warned though, it may be quite a few months before you see your work in print (if it managed to pass the two or three checking processes). There are various Editorial reasons for this, but mainly because your magazine is normally produced nearly two months before the publication date.

For the benefit of those who have already submitted programs, at the present time the following are sitting in the "possibles" file:

Adventure.Bas	D. Liebke
Menu Maker	A. Trost
SA Jubilee	R. Walker
Alien Invaders	Messrs Broad/Wise
Battleship	Steven Hall
Reserved RAM	I. Wallace
Flash Cards	P. Douth
464 Lotto	B. Shultz
Cross Word	L. Heron
Pedigree Program	L. Cherry
Trigonometry	P. Muscat
Math Help	T. Barberi
Clock.Bas	I. Abbott
Telad Database	G. Smith
Home Inventory	J. Murphy
Mini W/P	M. Ogden
Therapy Adventure	D. Rich
Mini W/P	W. Pynt
Key Expander	S. Miles
Tape/Disc reader	R. Rayner
Pengo/Battleships	R. Kippenberger
Storybook	G. Greaves
Wolfpack etc	R. Lundquest
Horoscope etc.	D. Rich

I have a rather unusual request for information. I need to know how to wreck the formatting on a formatted disc so as it won't hold any program saved to it or give a catalogue.

I have a beginners' computer class during the week at my school and some are interested in how to work with discs rather than tapes. Obviously I start with how discs are set out and how formatting aids the orderly position of data onto the discs.

As part of the lecture I try to save and ask for a catalogue on an unformatted disc, then I demonstrate the formatting procedure and save and catalogue the disc with success.

Now that all my discs are formatted I cannot show the consequences of using a disc straight out of the plastic which I think is important.

If a beginner can't see what can go wrong then he can't fix a problem when it occurs. Any unformatting advice you can give which doesn't include the corruption of the disc medium would be greatly appreciated.

A. Trost, Gracemere, QLD

When I get the Amstrad User one of the first things I look at is "THE AMSTRAD USER HALL OF FAME."

I like reading this to see how high people can score on games and then trying to beat them if I have the game. But because of this new column you have put in THE AMSTRAD USER called "CHEAT MODE", this is going to wreck the HALL OF FAME. I don't mind things shown in CHEAT MODE that tell you how to get past a certain place in a game or a map of a game, but things like small programs that allow you to have never-ending lives will wreck the HALL OF FAME. As I am very concerned about this fact I would like to know if you are going to do something about printing those programs that give you never-ending lives.

As I said I don't mind maps of games so if anyone has the map of JET SET WILLY I would like it if it could be printed in one of the next AMSTRAD USERS.

J. McNeill, Sale, VIC

This is a valid point, and to be honest, we think that some of the 'achievements' we were getting even before Cheat Mode were not! Lack of space has prevented us from printing the latest list, and unless everyone plays fair there is a danger of it being removed completely.

I became the happy owner of an Amstrad PCW 8256 about three months ago. I have now progressed in its use to a point where I can write letters to you such as this.

However, I must admit that I have sinned against the first commandment insofar as I have not really mastered all the sections of the manual even now.

I have read it and re-read it but, of course, that is not mastering it. The manual has been laid out in a way that makes it practically impossible, for the newcomer, to grasp the interaction of the fundamentals even after a number of readings.

It seems to me that the erudite writer of the manual set out, playfully, to make the basic logic of the machine and the LocoScript program as inaccessible as the clues in one of those adventure games you write about. The fact is, of course, the logic of neither is clearly stated anywhere in the manual.

It should be stated that I boggle over details that to anybody else are probably crystal clear.

The following are a few of the basic things I do not understand - there are more. The 8256 is possessed of 256K of what? Is that what can be stored in the machine or is that what a disc holds? If it's the machine why do I get funny messages when there are only 179K of memory used? How is it that if Drive A is 'full' as it says it is, Drive M has any capacity at all at that point? Or does it?

I think this type of information could have been given as the first section of the manual. I guess what I need to know is the basic logic of the machine, disc storage, LocoScript and their inter-relationship with one another.

As I see it, using the program when

you get the hang of it is easy, provided you take care, even though you do not understand the basic mysteries. The fact that it is not easy to start with is due solely to the way the manual has been written.

The manual does not, for instance, set out to give a general overview of LocoScript functions and having given you the framework then tell you where to get the relevant detailed data to improve your education.

Instead, with a minor concession about the first twenty minutes you are launched on a seemingly endless string of step by step by step instructions describing individual facilities in such detail, that at the end of the reading your mind is full and you do not remember what you have read or where you read it. A bit like the previous sentence you can't see the wood for the trees. Some of this is turned up-side-down and chewed over again in the CP/M Plus section.

I suppose, truth to tell, that the manual was written with a view to its use as a text book in conjunction with

a training course. For some reason the Australian supplier seems to believe that the manual alone will be sufficient. If that is so, then I would have expected that a locally written supplement setting out explanations such as those I have suggested would have been provided with the machine. In the absence of a training course or the supplement proposed above and with the manual so very badly organised for the beginner you can take an inordinate, and I suggest unnecessary, length of time learning to use with modest competence what is obviously a marvellous package.

D.S. Kay, Malvern, VIC

You may well find that a copy of "Mastering the Amstrad PCW 8256/8512" by John Hughes will answer most of your questions. We carried a review on the book last month (Page 44) and, surprise, surprise, you can purchase it through this magazine for \$29.50 if you are a subscriber, or \$32.25 if not (plus, of course, the postage).

For those who are new to computing and confused by all the strange jargon, the list below should be very helpful:-

Byte	What the Vyper does
Debug	De ting killed wid de Mortein
Array	Unit measurement of sunshine
Binary tree	for binary dogs
Emulate	a flightless non-punctual Australian bird
VDU	Socially diseased female sheep
Remote VDU	West Australian socially diseased sheep
RAM	the U's friend
Data source	Flavours microfiche and microchips
Supasort	Racquel Welch
External sort	Mistress
Exchange sort	End of an affair
Operating system	What you get after eating 1 kg of prunes
Kilobaud	1000 risque stories
Memory	... er, .. um ...
Program	In favour of metric weights
Macro	Scottish oarsman.
sauce	I. Wallace

(Reproduced from the September issue of the Townsville Amstrad User Group News Letter.)

Education CAN be fun !!

Yes! New, fabulous "SCHOOL" educational software is available in Australia at amazing low prices
CASSETTE OR DISC ----- AMSTRAD OR COMMODORE

The programs aimed at the lower age groups are strongly enforced with a visual and audio "fun" element to retain interest. The highest level of programs are presented in quiz-type format, giving two chances to answer each question correctly. At the end of the session you are given the option of receiving a printout of the results. Also hi-res graphics are used to highlight points in each question.

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- **Physics** (12-16) - Nine menu options. Pressure, heat, matter, electricity, magnetism, light. Excellent graphics
- **Chemistry** (12-16) - Ideal for examinations. Eight menu options. Oxygen, hydrogen, atoms, acids, carbon.
- **Geography: Weather/Climate** (13-17) - Menu driven. In depth analysis of weather, pressure, wind, temperature



- **Better Maths** (12-16) - Menu driven. Excellent graphics. Covers wide range
- **Maths Mania** (8-12) - Makes multiplication and division addictive. Excellent graphics.
- **Better Spelling** (9-Adult) - Best spelling program on the market. Endless fun with sixteen menu options
- **Playschool Maths** - For absolute beginners

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For your nearest supplier ring:

- NSW:** Pactronics, 3/25 George St, Homebush (02) 734 879
- VIC:** A.D.A., 9/57 Robinson St, Dandenong (03) 794 6714
- QLD:** CSQ Electronics, 66 Abbotsford Rd, Mayne (07) 52 9633
- SA:** F. Szepessy Agencies, "Baringa", Little Hampton (08) 271 1066
- WA:** J. Mills Agencies, 3/251 Balcatta Rd, Balcatta (09) 344 1660
- NZ:** Alpine Computers, Byron Rd, Takapuni, Auckland 09-493889

USER GROUPS

NATIONWIDE USER GROUPS

We wish all Amstrad User Groups a successful and rewarding New Year - may your numbers continue to swell!

WESTERN AUSTRALIA

ALBANY AMSTRAD USER GROUP

President: Gerry Barr (098 41 6884)
Secretary: Steven Hands (098 41 5183)
Treasurer: Gavern Grose

Regular meetings are held on the first and third Mondays of each month at Priess Street Centre, 14 Priess Street, Albany from 7.00 p.m., and are conducted in a friendly atmosphere with families welcome. An emphasis is placed upon educating and assisting users with their problems. Discounts have been obtained for financial members from certain dealers in the area.

AMSWEST (Perth)

President: Tony Clitheroe (09 275 1257)
Vice President: Steve Cushnahan (09 445 2062)
Secretary: Mrs. P.T. Ardron (09 361 8975)
Treasurer: John Firth

Regular meetings take place at a venue in Shenton Park on the first and third Tuesdays of each month starting at 7.30p.m.

AMSWEST (Blackwood) USERS GROUP

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

ROCKINGHAM-KWINANA AMSTRAD USER GROUP

President: Bob Harwood
Vice-President: Keith Gaisford
Treasurer: Rob Macilroy
Secretary: Keith Saw (095 27 6519)

This group meets at 7.30 p.m. at the Cooloongup Primary School, Westerly Way, Cooloongup (Rockingham), every second Wednesday. Further details can be obtained from Keith Saw on the above number or by writing to 29 Millgrove Avenue, Cooloongup, WA 6168.

SOUTHSIDE AMSTRAD USER CLUB

President: John Marshall (09 390 7335)
Secretary: Pauline Waghorn (09 459 8702)
Treasurer: Eric Tytherleigh (09 390 8865)
Librarian: Tom Bird (09 457 5614)
Junior Rep: Gary Mottabohy (09 457 8086)

SAUC meets from 7.00 p.m. every 2nd and 4th Wednesday of each month at Gosnells Scout Hall on the corner of Verna and Corfield Streets, Gosnells. All meetings are socially oriented with a minimum of business matters and can include software and hardware demonstrations, discussions or lectures which all prove to be helpful for beginners or advanced users alike. The club has an extensive library of tapes, discs, magazines etc. and discounts have been obtained from most local dealers and are available to financial members. The club also owns its own Bulletin Board which is of great benefit to all. Contact can be made with any of the above officers or by writing to The Secretary, Southside Amstrad Users Club, PO Box 324, Gosnells, WA 6110.

SOUTHSIDE AMSTRAD USERS CLUB - North West Branch (Tom Price)

President: Peter Hoffman (091 89 1608)
Secretary: Colin Smith
Treasurer: Mark Hedley-Smith

This recently formed branch of SAUC already has 25 members. It has its own library and meets every second Wednesday night at the Primary School. Contact can be made with the President at any time. The branch is run along

the same lines as the parent group and visitors are always welcome.

SOUTH AUSTRALIA

AMSOUTH AMSTRAD USERS GROUP

President: Geoff Martin
Treasurer: Bob Bleachmore (085 56 2048)
Secretary: Ross Kennewell (08 386 2737)

As the name suggests, this group has been established to cater for Amstrad users living south of Adelaide with the emphasis on family involvement. They meet every second Wednesday of each month at Christies Beach High School, Western Section, Beach Road, Christies Downs (adjacent to Staff Car Park). Meetings commence at 7.30 pm.

AMSTRAD COMPUTER CLUB INC. (SA)

President: Chris Sowden (08 295 5923)
Vice Pres: Frank Matzka (08 382 2101)
Treasurer: Les Jamieson (08 356 9612)

The group now meets each Tuesday at the Church Hall, 15 Clayton Avenue, Plympton between 6.30 p.m. and 9.00 p.m. Any of the above officers can be contacted for further details and correspondence can be addressed to PO Box 210, Parkholme, 5043.

NORTHERN COMPUTING SOCIETY INC.

President: Reg Pye (08 265 5272)
Treasurer: Maurice van der Hoeven (08 258 1722)
Secretary: Mike Taylor (08 264 5715)

This group has been in existence for several months and has a steady stream of new members. They meet in the Scout Hall, Bagster Road, Salisbury North every Wednesday from 7.00 p.m. For further details contact any of the above officers.

PORT LINCOLN AMSTRAD USERS GROUP

Contact: Rita Bascombe (086 82 1633)

This new group currently meets at Rita Bascombe's house on the third Tuesday of each month from 8.00 p.m. until more suitable premises are found. All interested parties should contact Rita on the above number.

PORT PIRIE AMSTRAD USER GROUP

President: Doug Gowers (086 36 5206)
Treasurer: Dave Green (086 32 6834)
Secretary: Tim Eckert
Youth Rep: Mark Fusco (086 36 2452)

The group meets at 7.30 p.m. every second and fourth Monday of each month at the Education Centre, 370 The Terrace, Port Pirie. Meetings are well attended with members from Pt. Broughton, Pt. Pirie, Crysral Brook and Laura Primary School. For further details contact Rick Cable who will advise on the benefits of belonging to this group. Further details can be obtained from any of the above officers or by writing to The Port Pirie Amstrad User Group, c/o D.T. Green, 207 Senate Rd., Port Pirie, SA 5540.

SOUTH EAST AMSTRAD USER GROUP (SA)

Co-ordinator: Neil Taylor (087 25 8068)

Meetings are held on the third Sunday of the month in Mount Gambier from 1.00p.m. to 4.00p.m. The group has sessions on programming and information sharing, with free time for games, business applications or problem solving.

NORTHERN TERRITORY

NORTHERN TERRITORY AMSTRAD USER GROUP

President: Kevin Bateman (089 32 1463)
Treasurer: Greg Heron (089 27 8814)
Secretary: Colin Gorton (089 84 4655)

This is the first established user group in the Northern Territory and meets every 2nd and 4th Monday of each month at Casuarina Library, Darwin at 8.00 p.m. There is a cover charge of \$2.00 to pay for the hire of the room. Activities include tutorials in Basic and CP/M, help for adventurers and demonstrations of software. Discounts for members have been obtained from the local dealer. A Newsletter is issued and a Club Library will be started soon.

VICTORIA

CENTRAL AMSTRAD USER SOCIETY

President: Fred Gillen (03 580 9839)
Vice-Pres: Dennis Whelan (03 367 6614)
Treasurer: David King (03 546 3992)
Secretary: John Holmes (03 434 1607)

Meetings are held twice a month in the Hall at the corner of Church and Somerset Streets, Richmond on the first Sunday of each month commencing at

1.00 p.m. and generally twelve days later on a Friday evening starting at 7.00 p.m. All meetings are conducted in a friendly atmosphere - families are welcome.

EASTERN AMSTRAD USER GROUP

President: Tony Blakemore (03 878 6212)
 Secretary: Barry Fredrickson (03 846 1340)
 Treasurer: Ron Dunn (03 277 7868)

Regular meetings are held on the first Sunday of every month at St. Ninian's Church Hall, cnr. McCracken Avenue and Orchard Grove, South Blackburn. The group organises tutorials in Basic and CP/M for beginners as well as lectures and demonstrations. PCW courses are being planned. Proceedings commence at 2.00 p.m. Their postal address is PO Box 279, Heidelberg, Vic 3084.

GEELONG AMSTRAD USER CLUB

President: Ron Butterfield (052 50 2251)
 Vice-President: Arthur Pounsett (052 78 2160)
 Secretary: Ross Bennett (052 44 1556)

This club now meets at South Barwon Community Services Centre, 33 Mount Pleasant Road, Belmont on the first Wednesday of every month, starting at 7.30 p.m.

GOULBURN VALLEY AMSTRAD USERS CLUB

President: Shad Aitken (058 52 1001)
 Secretary and Bill Brown (058 22 1011) B/H
 Treasurer: (058 21 7569) A/H

This group aims "to explore and enjoy all aspects of the Amstrad computers" and meets on the third Wednesday of each month from 7.30p.m. at 98 Nixon Street, Shepparton on the first floor.

LATROBE VALLEY AMSTRAD USER GROUP

Contacts: M. G. Donaldson (051 34 5711)
 F. Baxter (051 92 4246)

This newly established group meets informally once a month from on a Thursday evening. Their aims are to foster knowledge and a better understanding of the Amstrad computer. Any Amstrad user is welcome to come to the meetings. For more details of dates and venue contact the above.

MACEDON RANGES AMSTRAD USER GROUP

Contacts: Wayne Urmston (03 744 2719)
 Ken McMaster (054 22 2620)

Covering the Gisborne, Sunbury, Kyneton and Woodend areas, this group meets in the Admin. Building of Flexdrive Industries on the second Wednesday of each month from 7.30 p.m.

MARYBOROUGH AMSTRAD USER CLUB

President: Chad Banfield (054 68 1351)
 Treasurer: Brendan Severino (054 61 3191)
 Secretary: Paul Clark (054 61 2135)

This group consists of a number of students and teachers from Maryborough CCC. Meeting take place each Friday from 12.10 p.m. to 12.45 p.m.

NORTHERN AMSTRAD USER GROUP

Contact: Brian Ellis (03 469 4425)

Meetings are held every second Sunday in Preston. The group has a twofold structure and the alternate meetings are devoted to novice training and systems development. Games are discouraged.

SALE AMSTRAD GROUP

The Group meets informally every Thursday night from 7.00p.m. at the Sale Neighbourhood House in Leslie Street. In addition, small group tutorials are held twice a month.

SOUTHERN AMSTRAD USER GROUP INC.

President: Peter Bradley (03 786 3953)
 Secretary: Bob Patterson
 Treasurer: Vickie Finlayson (059 98 8328)

Meetings are held on the third Tuesday of every month (except December when it is the first Tuesday) from 7.30 p.m. to 10.30 p.m. The venue is the Senior Campus at John Paul College, Frankston. Further details can be obtained from any of the above officers or by writing to the Secretary, PO Box 100, Seaford, Vic 3198.

WESTERN COMPUTER CLUB

The meetings are held on alternate Tuesdays, from 6.30 p.m. to 9.30 p.m. at the Fairbairn Kindergarten, Fairbairn Road, Sunshine. For further information write to PO Box 161, Laverton 3028.

ACT

CANBERRA AMSTRAD USER'S GROUP

Convenor: Neale Yardley
 Secretary: Steven Walker (062 58 2323)
 Treasurer: Roger McLennan (062 82 3064)

The group meets at 7.30 p.m. on the first Wednesday of each month in the Large Lecture Theatre, Canberra TAFE College, Constitution Avenue, Ried. Correspondence should be addressed to the Secretary, PO Box 1789, Canberra, ACT 2601.

NEW SOUTH WALES

AM-USER's (North Ryde)

Contact: Lawrence Walters (02 888 1898)

The primary objective of the group is to enhance member's knowledge on both hardware and software available and on the Amstrad computers themselves. Meetings are held in the Meeting Room at 2 Leisure Close, North Ryde from 7.30 p.m. on the first Tuesday of each month. Discounts for members have been established at several stores in the area.

BLUE MOUNTAINS AMSTRAD USERS

President: Bob Chapman (047 39 1093)
 Vice President: Dennis Shanahan (047 39 4568)
 Treasurer: Peter Traish (047 53 6203)
 Secretary: Christine Preston (047 51 4391)

Meetings are on the fourth Wednesday of each month at the Springwood Neighbourhood Centre, Macquarie Road, Springwood and start at 8.00 p.m. Activities include interaction of users with exchange of information and resources, a newsletter and tutorial sessions.

CENTRAL COAST AMSTRAD USERS CLUB

President: Lloyd Mitchell (043 88 2950)
 Secretary: Ray Thompson (043 32 9095)

Established in March 1986, this club meets on every second Monday of the month at The Entrance Aquatic Club, Salt Water Reserve, Long Jetty. Proceedings start at 7.30 p.m. sharp. Anybody wishing to attend the meetings is welcome, and further information can be obtained from the above officers.

COFFS HARBOUR AMSTRAD COMPUTER CLUB

President: Bruce Jones (066 52 8334)
 Secretary: Don Donovan (066 52 6909)
 Treasurer: Brian Claydon (066 49 4510)

The club caters for all levels of users and meets on the first Friday of each month at the Orara High School, in Joyce Street, at 7.00 p.m. Further information can be obtained by contacting the above members.

FAIRFIELD MICRO USER GROUP

Contact: Arthur Pittard (02 72 2881)

The group meets every third Wednesday of the month from 7.00p.m. in Room 65, Canley Vale High School, Prospect Road, Canley Vale. For more details contact Arthur on the above number.

ILLAWARRA AMSTRAD USERS CLUB

President: Paul Simpson (042 27 1574)
 Secretary: Ken Waegele (042 56 6105)
 Publicity Officer: Steve Parsons (042 96 3658)

The Club meets on the third Saturday of the month at the AGA Germania Club, Berkeley at 2.00p.m. Discounts for members have been arranged at major Amstrad stockists in the area. A Club library is currently being stocked.

NAMOI AMSTRAD USERS GROUP

Contact: Martin P. Clift, JP (067 92 1333) B/H
 (067 92 3077) A/H

Meetings are held at the Narrabri Technical College, Barwan Street, Narrabri on the first Saturday of each month at 2.00 p.m. Discounts for members are being arranged with the local retailer who has provided much assistance in establishing the group. For further details contact Martin Clift on either of the above numbers.

NEWCASTLE AMSTRAD USER GROUP

President: John Harwood (049 48 5337)
 Treasurer: Erica Harwood
 Secretary: Chris Hollander (049 67 5864)

Meetings take place on the first Tuesday of each month at Kotara Public School, Park Avenue, Kotara. A Newsletter is produced each month for members. Interested parties should contact John, Erica or Chris on the above numbers.

USER GROUPS

PCW AUSTRALIA GROUP

Contact: Reuben E. Carlsen
An inaugural meeting was held recently at which the majority of persons attending owned either a PCW8256 or 8512. However, membership is not restricted to just these machine owners. Interests range from word processing or business applications to program development. Regular meetings are planned for the second Tuesday of each month at 7.30 p.m. at a permanent venue to be arranged shortly. Other plans include a PCW User Newsletter. For more details contact Reuben Carlsen at PO Box 1879, North Sydney, NSW 2060.

PORT MACQUARIE AMSTRAD USERS GROUP

This group hopes to produce professional quality hardware add-ons for the Amstrad. The group can be contacted through Craig Tollis, PO Box 584, Port Macquarie, 2444.

SYDNEY AMSTRAD COMPUTER CLUB

President: Raja Vijayenthiran (02 88 3143)
Secretary: Reed Walters (02 560 9487)
Treasurer: Jim Chryst (02 327 7872)
Junior Rep: Daniel Story

This club now meets in a community hall in the Newtown area, on the first Saturday of every month for a normal club meeting and on the third Saturday of each month for the purposes of programming tutorials only. Both meetings commence at 2.00 p.m. Prospective members should contact either the Secretary or Treasurer between 6.00 p.m. and 9 p.m. on the phone numbers above for the exact location.

QUEENSLAND

BRISBANE AMSTRAD COMPUTER CLUB

President: Paul Witsen (07 393 4555)
Secretary: John Roberts (07 283 3349)
Treasurer: John O'Connor (07 271 3350)
Tech. Librarian: Peter Golledge (07 376 1651)

Three meetings are held each month. The main meeting is held on the first Tuesday of each month at Junction Park State School, Waldheim St., Annerley starting at 7.30p.m. in Room 15a.

The second is held at Wynnum Central State School, Florence Street, Wynnum Central on the first Saturday of each month at 1.00p.m. The group co-ordinator is Warren Kennedy (07 351 4232).

The third is held at Newmarket State School, Banks St., Newmarket on the second Saturday of each month at 1.30p.m. This group's co-ordinator is Cherry Shrier (07 351 6179). Tutorials on Basic and Machine Code are given and a rapidly growing public domain library is available to all members.

BUNDABERG AMSTRAD USER'S GROUP

President: Ray Babbidge (071 72 1223)
Secretary: Ron Simkin
Treasurer: Sheila Cole (071 72 8884)

Established in May 1986, this group already has over 30 members. They meet on the third Tuesday of the month. For more details contact the above or write to Ron Simkin, PO Box 865, Bundaberg, QLD 4670.

MACKAY AMSTRAD USER GROUP

Are newly formed small mixed group with meetings held every second Sunday morning. For further details contact either Des Mulrealley on 551409 or Ron Coates on 547222.

PENINSULA AMSTRAD CLUB

President: Ivan Dowling (07 269 8795)
Treasurer: Keith Johnston (07 203 2339)
Secretary: Tracie Payne (07 267 6645)

The aims and objectives of this new club are to "further the knowledge, understanding and enjoyment of the Amstrad computer in its entirety". Meetings are held every third Tuesday of each month at 7.30 p.m. in the Kippa-Ring State School Library, Elizabeth Avenue.

SOUTHSIDE AMSTRAD USER GROUP (QLD)

President: Michael Toussaint (07 200 5414)
Vice-President: Peter Incoll (07 208 2332)
Secretary: Ken Henry (07 208 8730)
Treasurer: Tony Reynolds (07 841 4823)

Meetings take place every third Saturday of the month at the Loganlea State High School (in the Communications Room) starting at 2.00 p.m. The group was formed to service the southern outskirts of Brisbane and membership consists of beginners to advanced programmers.

Demonstrations of various hardware and software packages are given at meetings and the formation of smaller instruction groups for personal attention is under way. A BASIC programming instruction course is held fortnightly.

TOWNSVILLE AMSTRAD USER GROUP

President: Ian Wallace (077 73 1798)
Vice President: Doug Selmes (077 79 6011 ext. 252)
Treasurer: Allan Maddison (077 79 2607)
Secretary: S. Crawshaw (077 73 3933)

The club meets at 7.30 p.m. on the first and third (only) Tuesdays in each month in the Science Block of the Kirwan High School in Thuringowa Drive. Activities include Basic programming and CP/M sessions, new product reviews, problem solving, competitions and social outings. Club members also receive discounts on software and stationery from selected stores.

THE WARWICK AMSTRAD USER GROUP

President: Adrian Christensen
Secretary: John Wode (076 61 5176)
Treasurer: Neville Christensen

Meetings take place at the Warwick Education Centre on the first and third Saturday of each month from 3.00 p.m. Funds are currently being raised to purchase a printer for all to use. PCW owners also welcome. Discounts for members have been obtained from two local dealers.

WEIPA AMSTRAD USERS CLUB

President: Andrew Seaborn
Vice-President: Dave Wootton
Treasurer: Frances Casey
Secretary: Gary Chippendale (070 69 7448)

This new group has already had a few meetings at Noola Court in Weipa. Prospective members should contact Gary on the above telephone number or write to 15 Noola Court, Weipa, 4874.

WESTERN SUBURBS AMSTRAD USERS GROUP

President: Peter Wightton (07 288 4571)
Secretary: Jimmy James (07 376 1137)
Contact: Keith Jarrot (07 376 3385)

At the moment informal monthly meetings are held at Western District Office Supplies, 500 Seventeen Mile Rocks Road, Jindalee at 9.30 a.m. on the first Saturday in each month. All age groups from 9 to 90 are welcome. Prospective members may contact any of the above or write to 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 Officer: Danny Brittain (002 47 7070) Meetings take place on the first Wednesday of each month, commencing at 7.30 p.m. at the Elizabeth Matriculation College. Tutorials and Workshops are held at the Lady Rowallan School at times and dates to suit participants. Emphasis is on the CPC range with meetings kept as informal as possible.

NORTHERN TASMANIAN AMSTRAD COMPUTER CLUB

President: Paul Gerard (003 93 1687)
Treasurer: Russell Lockett
Secretary: Andrew Blazely (003 93 1687)

Previously called the Launceston Amstrad User Group, this group meets on the first Saturday of each month in the Launceston Community College (opposite Park Street) in Room 11 at 5.00 p.m. Proceedings are kept as informal as possible and cover tutorials and question and answer sessions. A large range of public domain software is available to members along with a reasonable range of games and utilities. Family membership is \$30.00, Adult \$20 and Student (under 16) \$15.00. All Amstrad Users Most welcome.

N.W. COAST AMSTRAD COMPUTER USER'S CLUB

President: John Wilson (004 31 7162)
Treasurer: Peter Cocker
Publicity: Noel Davies (004 31 8490)

Recently established, this group meets at the Burnie Technical College, Mooreville Road, Burnie on the third Saturday of each month at 1.00 p.m. Tutorials and workshops are held with an emphasis on instructing beginners.

NEW ZEALAND

AMSTRAD CANTERBURY

Contact: Christine Linfoot 459 132
Ian Orchard 524 064

The club meets on the fourth Wednesday of each month at Four Avenues School, cnr. Madras Street and Edgeware Road, Christchurch 1. They are currently running tutorials in Basic for beginners, machine code and

general purpose debugging, with ad hoc discussion groups on the working utilities such as Tasword, Masterfile etc. The postal address of the group is: PO Box 23.079 Templeton, Christchurch, NZ.

WELLINGTON AMSTRAD USER GROUP

Contact: Tony Tebbs 791 072 (evgs)
This group meets at 7.30 p.m. on the last Wednesday of each month. The normal venue is Room 718, Kirk Block, Victoria University. The postal address is PO Box 2575, Wellington, New Zealand.

User Group Contact List

As we are short on space (again!) this month, please refer to the November list to which can be added the following:

Charles van de Winkel - Ballarat - (053) 313 983
Graeme Annabell - Rockhampton - (079) 274 915

If you are interested in starting a group in your area, just send us your name, address and telephone number. We will put it in the Contact List. Hopefully, other like-minded people will contact you, and between you all you can arrange your first meeting.

Do you want a Drawing Program that will allow you to save a section of the screen to disc, then load it to another screen without damaging the rest of the new screen?

SCREEN GRAPHICS PACKAGE V.6

contains a powerful drawing program with that function, and many other features. Also includes a Character Editor / Graphics String Variable Creator and an Epson compatible shaded screen to printer program. Side 2 of the disc contains a Library of small pictures for you to use, and some Public Domain programs.

For Amstrad CPC Computers, disc only
\$45.00 + \$2.50 Post and Packing.
Bankcard or Visa accepted.

**BUNYIP SOFTWARE, PO Box 591,
MURRAY BRIDGE, SA 5253**

Pactronics announce with Pride..

.. the release in Australia and New Zealand
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- **System X** - 32 Basic extensions. Power features for Programmers.
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- **Transmat** - Tape to disc utility for DDI-1 disc drive owners. Transfer those slow old cassettes on to your discs!
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- **Zedis II** - Full disassembler and monitor. All commands, address, find, input, load, move, disassemble ROMS.
- **Spirit** - Another tape to disc transfer, handles the latest "headerless" files.

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- **Clock/Alarm** - A real time clock on your monitor, running right alongside your program!

Available at all Grace Bros stores, Waltons stores, Harvey Norman, BIG W and leading retailers throughout Australia.

Trade enquiries welcome.

For your nearest supplier ring:

- NSW:** Pactronics, 3/25 George St, Homebush (02) 734 879
VIC: A.D.A., 9/57 Robinson St, Dandenong (03) 794 6714
QLD: CSQ Electronics, 66 Abbotsford Rd, Mayne (07) 52 9633
SA: F. Szepessy Agencies, "Baringa", Little Hampton (08) 271 1066
WA: J. Mills Agencies, 3/251 Balcatta Rd, Balcatta (09) 344 1660
NZ: Alpine Computers, Byron Rd, Takapuni, Auckland 09-493889



Bulletin Board at Burwood

Max Elliott has been in the office equipment industry for over 25 years, starting at Olivetti prior to decimalisation selling and programming mechanical accounting machines and ending up the accounting machine manager. He has personally programmed square hole punch paper tape equipment as well as selling the early electronic calculators when they were bigger than the current computers.

Max now runs Viatel Computers in Burwood, Vic., where there is currently in stock over 250 x 8" double sided double density diskettes of public domain software. It would be about 160 megabytes give or take 10 or so. This is not the only Public domain software that they carry, but all of the abovementioned is suitable for the Amstrad 6128. They also carry PC software and can supply many programs including educational. The volumes of software originated from the "C", "CPM", and "SIG/M" User groups in America. A printed catalogue of all volumes is available to look at from their premises in Burwood. Max also stocks Amstrad products as well as offering repairs on all types of personal computers.

The company runs an RBBS and is interested in organising a separate section of their remote Bulletin Board specifically for the Amstrad users should there be enough interest. It is capable of running up to 9 users at the same time, but as each phone line requires an automatic Modem as well as a separate phone line, the costs are quite high, not to mention the back-up support provided by: monitoring uploaded new files for downloading, checking files that have been uploaded in the chance they are copywrite, checking messages for any

dirty words, backing up the complete system once a week and the list goes on.

The RBBS is online 24 hours per day and operates at 300/300 bps as well as 1200/1200 bps. The 1200/75 is not supported but this speed is being worked on and will be operational.

The current RBBS is a PC compatible running at 10 Megs and has fitted a 30 Meg voice coil hard disc drive, twin 5" drives. From the 30 megs available 16 megabytes is taken up by the Bulletin Boards operating system. This leaves about 10 megabytes free for downloadable public domain software. An Amstrad BBS would give all Amstrad users with modems the means to communicate to one-another via a comprehensive messaging service. Also provided by the system is a "bulletin" section for any comments when evaluating a specific product. This enables all users of the system the benefit of an opinion or knowledge from an actual user.

The log on phone number is 288-3599 (visitors are welcome), but they do require a registration fee to cover some expenses, as well as a registration form duly signed. This can be printed from the screen. Apart from being known as Viatel Computers, they also trade under the name ABE Computers. The RBBS comes up as ABE (as opposed to Viatel) as this would be quite confusing if they ran it in competition with Telecom.

The company is situated at 24 Burwood Highway, (near Warrigal Road), Burwood, Victoria 3125 and is open normal times, but usually much later. For further information, you can write to the above address or ring during normal hours (03) 288 2144 or 288 9067.

NEWS RELEASE

LED SIGNS GET LARGER, SMARTER AND TALK!

LED signs have the capability of providing public messages to large Audiences. They have traditionally been used in Financial Institutions, Retail Stores, Process Control, Special Functions, Exhibitions and in various other applications to advertise products and services or alert people to some other event of interest.

Setting up the display has been made very simple, the operator needing only to type the display characters required together with the display special features (scroll, roll etc) into an ASCII keyboard and the display will then proceed to advertise or inform automatically until a change is required.

A new range of signs has been released in Australia capable of displaying 16 to 60 characters plus graphics. Sizes vary from 50 by 11.5cm to 152 by 23cm. Local memory varies from 2-16K. Not only is local set-up available from the conventional keyboard, modem and RS232C models allow remote control of the display from a central control point. This will allow an organization to have as many signs as required at various locations and control them from their central facility. PC users can drive the display from their serial port.

Ex-tax prices range from \$483 for a 10 character display sign to \$2600 for a 16/60 character double height display sign with serial interface.

A locally manufactured intelligent controller capable of natural human voice reproduction is available to back-up the visual display.

Further information is available from the Agents; Zenology Pty Ltd on (03) 233 5764.

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 1 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.

POWERPLAY

This poke allows you to examine the prepared question files on the Arcana game. Just type in the listing, rewind the tapes on side 2 and run the listing. Once the compiler has loaded, you can load one of the quiz files provided and examine it.

```
10 MEMORY &91FF 20 LOAD "compiler"
30 POKE &9289, &BF
40 CALL &9200
```

KILLAPEDE

This Method 1 poke gives you an awful lot of lives to blast away those insects.

```
10 MEMORY &2000:MODE 1:BORDER 26
20 INK 0,0:INK 1,26:INK 2,24:INK 3,6,
30 CLS:LOAD"!screen",&C000
40 LOAD"!killdisc.obj"
50 BORDER 1:INK 0,1:INK 1,1: INK 2,1:INK 3,1
60 LOAD"!kill.say",&C000
70 POKE &4A14,0
80 CALL &4963
```

THRUST

This nifty poke is entered using Method 1 and gives you an extra new control over your ship. When in flight you can hit the Ctrl key and it stops the ship dead. It doesn't stop the pod if you're carrying it, but controlling it is much easier once you've stopped.

```
10 DATA 32,46,32,3a,32,32,fe,56,28,02,14
20 DATA e9,e5,21,3a,01,36,c3,23,36,26,23
30 DATA 36,be,21,76,36,36,32,23,36,46,23
40 DATA 36,32,e1,14,e9,21,65,01,36,c3,23
50 DATA 36,37,23,36,be,3a,37,bd,c3,3D,01
60 DATA 21,bd,3c,36,c3,23,36,45,23,36,be
70 DATA c3,1e,32,cd,23,3d,e5,21,8c,4a,36
80 DATA c3,23,36,5c,23,36,be,21,5b,73,36
90 DATA 00,e1,fb,e9,c2,15,4c,3e,17,cd,91
100 DATA 41,c4,49,4a,c3,8f,4a,21,76,36,36
110 DATA c3,23,36,00,23,36,be,c3,00,36
120 y=B:MEMORY &2000
130 FOR x=&BE00 TO &BE77:READ a$
140 a=VAL("&"a$):y=y+a
150 POKE x,a:NEXT
160 IF y()&29F2 THEN PRINT "Data error":END
170 LOAD "thrust!"
180 CALL &BE6A
```

ALIEN HIGHWAY

Another cracker which de-electrifies the road edge in the Vortex game to make manoeuvring a lot easier. It's entered using Method 1.

```
10 DATA 21,63,11,22,a1,11,c3,40,99,21,e2
20 DATA 39,36,c3,23,36,5f,23,36,be,21,40
30 DATA 00,e5,21,00,bb,e5,c3,b7,39,e5,21
40 DATA 75,02,36,85,e1,f1,f3,c9
50 FOR x=&BE40 TO &BE68
```



```

60 READ a$
70 POKE x,VL("&" + a$)
80 NEXT
90 MEMORY &2000
100 LOAD "alien highway"
116 CALL &BE49

```

HEAVY ON THE MAGICK

Some tips for anyone stuck in Gargoyle's animated adventure on how to deal with all those doors.

Doors are opened using keys, gold or a password. If a door has a table near it a key is required; if a table and a double-O sign, gold is needed; if pillars with skulls or wolves' heads, a password has to be found. Rooms requiring keys have names like room of Pride and room of Claws. These names match star signs found next to the keys. For example Leo the lion matches the room of Pride and Cancer the crab matches the room of Claws.

Elementals are a problem, as they block progress or guard useful objects. To obtain the objects a replacement has to be found. A pellet is replaced by a ball, an egg by a shell, and a nugget by a nougat. To get past the fire you must carry the salamander clasp. To pass the hydra you must have the snake clasp. Most monsters can be dealt with by blasting but other larger ones require an object to kill them. Use the mirror on Medusa, the pellet on the slug, the slat on the cyclops, the garlic on the vampire and the nugget on the werewolf. If you run into them without the right objects the only way past is to transfuse till you have 99 stamina points and then continually freeze them.

JACK THE NIPPER

We've got both disc and tape pokes for the Gremlin game. Type in the disc poke and save it to a separate disc - not the game disc. Once saved you just need to run it and follow the on-screen instructions. The tape poke is entered using Method 1.

Please note that the disc poke actually writes to your game disc and alters it, so ensure the write-protect tab is off or the poke won't work. There is a check in the program that should stop any errors in the data getting through, but you should be very careful when typing it in.

DISC VERSION

```

10 '
20 '   The Write Protect Must Be Off
30 '   Otherwise The Pokes Cannot Be Entered
40 '
50 MODE 2:BORDER 0:INK 0,0:INK 1,24
60 FOR t=&1000 TO &10A2:READ a$:POKE
  t,VAL("&" + a$)
70 b=b+VAL("&" + a$):NEXT t
80 IF b()1249 THEN PRINT "ERROR IN DATA":STOP
90 PRINT "Insert JACK THE NIPPER disc into
  drive A and press a key. . ."

```

```

100 CALL &BB03:CLL &BB06
110 PRINT "Infinite lives (Y/N) ?"
120 z$=INKEYS:IF z$="" THEN 120
130 z$=UPPER$(z$)
140 IF z$="Y" THEN POKE &1046,&C3:POKE
  &104C,0:GOTO 290
150 IF z$="N" THEN POKE &1046,&C2:POKE
  &104C,&CD:GOTO 300
160 LOCATE 1,1:PRINT CHR$(7)
170 GOTO 120
180 PRINT "Press A Key When Ready To Play Game .
  . . ."
190 CALL &BB03:CALL &BB06:|C PM
200 DATA 21,95,10,CD,D4,BC,22,96,10,21,99,10,CD
  D4,BC,22,9A,10
210 DATA 06,02,21,9D,10,C5,06,08,3A,93,10,4F,C5
  E5,1E,00,3A,8D
220 DATA 10,57,Df,96,10,E1,C1,11,0,2,19,C,79,32
  93,10,10,E4,3E
230 DATA 11,32,93,10,3A,8D,10,3C,32,8D,10,D2,3E
  C3,21,4E
240 DATA 13,77,3E,00,21,BB,20,77,23,3E,00,77,23
  3E,00,77,86,02
250 DATA 21,9D,10,C5,06,08,3A,91,10,4F,C5,E5,1E
  00,3A,8F,10,57
260 DATA Df,9A,10,E1,C1,11,00,82,19,0C,79,32,91
  10,10,E4,3E,11
270 DATA 32,91,10,C1,10D2,C9,06;,00,06,00
280 DATA 11,00,11,00,84,00,00,87,85,00,00,07,00
  00,00,00,00,00
290 POKE &1053,0:POKE &1057,0:CALL &1000:GOTO
  180
300 POKE &1053,&EA:POKE &1057,&IF:CALL
  &1000:GOTO 180

```

TAPE VERSION

```

10 MODE 1
20 MEMORY 40959
30 DATA 175,50,16,32,62,6,50,19,32,195,1,16
40 FOR x=48640 TO 48651
50 READ z
60 POKE x,2
70 NEXT
80 LOAD"!nipper",40960
90 POKE 41049,190
100 CALL 40960

```

MONTY ON THE RUN

A method 1 poke for Gremlin's platform/exploration game. This one gives you a whole bunch of lives again - what more could you want?

```

10 DATA 21,b9,9c,36,b7,c3,e9,82,21,6b,42
20 DATA 36,c3,23,36,07,23,36,03,21,40,00
30 DATA e5,21,89,03,e5,c3,40,42,e5,21,36
40 DATA 02,36,05,e1,f1,f3,c9
50 FOR x=&2E9 TO &310
60 READ a$
70 POKE x,VAL("&" + a$)
80 NEXT

```



```
90 MEMORY &2000
100 LOAD"monty on the run"
110 CALL &2F1
```

THE APPRENTICE

This poke for the Mastertronic game gives you infinite lives. It's entered using Method 2 to skip the first five blocks named THE APPRENTICE

```
10 MODE 1:BORDER &:INK 0 0
20 LOCATE 14,12:PRINT "Please wait . . . "
30 FOR a=0 to 14
40 READ a$
50 POKE &1000+a,VAL("&" +a$)
60 NEXT
70 CALL &1000
80 POKE &9DDD,0
90 POKE &9DDE,0
100 CALL &9E7A
110 DATA 21,ba,12,11,46,92,3e,2c
120 DATA cd,a1,bc,d2,00,00,c9
```

SAI COMBAT

Dan Rodgers of London has some tips for the combat game that he says should allow you to carry on endlessly.

For white to black-belt opponents you should advance two paces forward and hold a chest kick. When the opponent is near enough, chest-kick repeatedly, never allowing your foot to touch the floor. That should do them all in.

For the black belt and all Dan belts you should somersault twice into the middle of the screen and then repeat the routine with the chest kick. When the throwing stars come along the ground, use a flying kick to avoid them, as you will often injure your opponent as well. When the stars come at head height, duck.

GET DEXTER

If you press the Delete key it will pause the game.

TOBRUK

Here's a method for winning on the PSS war game. It hardly tests your strategic and tactical skills but it works.

1. Move all units with a six-movement allowance and surround Bir Hacheim.
2. Move supplies to within six spaces of units.
3. Keep attacking Bir Hacheim with all units.
4. Every move, try to move supplies around a bit so they won't get hit by an enemy air strike.
5. On command phase use all 30 points on air attacks.
6. When it comes to the air attack always bomb Tobruk.
7. After bombing Tobruk three times it will surrender

NEXOR

A Method 1 poke that gives infinite lives on Design Design's 3D arcade adventure.

```
10 MODE 1:BORDER 2:INK 0,2:INK 1,26:INK 2,15:INK
3,1820 a=&BF00
20 a=&BF00
30 READ b$:IF b$="end" THEN
40 ELSE b=VAL("&" +):POKE a,b:a=a+1:t=t+b:GOTO 30
40 IF t<>4708 THEN PRINT"Error in data":END
50 CALL &BF00
60 DATA 3e,ff,cd,6b,bc,11,00,01
70 DATA 06,00,cd,77,bc,21,00,01
80 DATA cd,83,bc,cd,7a,bc,f3,21
90 DATA 00,c0,11,00,40,cd,92,01
100 DATA 21,00,12,11,ff,a1,cd,92
110 DATA 01,af,32,24,39,c3,00,20
120 DATA end
```

FREEBIE

If you are thoroughly bemused by all the pokes that go on in Cheat Mode or are one of the few who hasn't got a game to cheat with, here is a poke for a non-existent game. Just type it in and run it - you won't need to rewind the non-existent game tape or skip any imaginary headerless files.

```
10 MODE 1
20 DATA cd,14,bc,3e,53,cd,5d,bb
30 DATA 3e,55,cd,5d,bb
40 DATA 3e,43,cd,5d,bb
50 DATA 3e,4b,cd,5d,bb
60 DATA 3e,45,cd,5d,bb
70 DATA 3e,52,cd,5d,bb
80 DATA 3e,21,cd,5d,bb
90 DATA cd,18,bb,c9
100 FOR a=&4000 TO &4000+41
110 READ a$:POKE a,VAL("&" +a$)
120 NEXT
130 CALL &4000
```

BATMAN

An answer to the the prayers of all caped crusaders with the disc version. Just type in the listing and save it onto the game disc. Now whenever you want infinite lives just run the listing and it will automatically load the game with infinite lives.

```
10 MODE 1:PAPER 0:INK 0,0:BORDER 0:INK 1,6:INK
2,28:INK 3,26
20 LOAD"bat3.scn",&C000
30 FOR x=&BF00 TO &BF2D:READ 5$:POKE
x,VAL("&" +5$):NEXT
40 CALL &BF00
50 DATA 0e,07,11,40,00,21,ff,b0
60 DATA cd,ce,bc,21,27,bf,11,00
70 DATA 01,06,06,cd,77,bc,21,00
80 DATA 01,cd,83,bc,cd,7a,bc,21
90 DATA 90,1c,36,00,c3,00,01,62
100 DATA 6d,2e,73,62,66,00,00,00
```

STARSTRIKE II

Tips for the Realtime game take you through it stage by stage.

When you start the game you are shown a chart of the systems. If you're a beginner then go for the Beta system, which is relatively easy. Once you've chosen a system, the map of its planets appears. These are split into three types:

Agricultural - These have poor defences and are the easiest of the three. The stages are space gates, fighters, planetary descent and control room.

Industrial - These are slightly harder, consisting of space gates fighters, ventilation duct and control room.

Military - These are the hardest of the three. They are made up of the space wheel, space gates, fighters, planetary descent, ventilation duct and control room. Note that sometimes an alarm will sound and a load of coloured rectangles will head for you. They can't be shot so you have to dodge them, but fortunately they don't take much off your shield.

Space wheel: Appears on the screen and moves clockwise. Rotate the ship anti-clockwise and blast the pods off the wheel edge. A door opens; centre the cross-hairs on it and press D. Rotate the ship against the spin of the wheel until the door is horizontal and then keep it there. Once inside blast the fighter and two of the triangles on the far wall. The third triangle stops the iris from moving so shoot it when the iris is fully open and fly out.

Defence shields: There are several different gates you have to negotiate. Each one has a diamond-shaped gap containing squares and triangles. The triangles can be shot but the squares cannot. To pass through safely, head for the middle square firing at any missiles that come from the guns. The middle square is set back from the others; when the others disappear from view you can turn to the side very quickly to avoid the final square.

Orbital insertion: To be on the safe side transfer as much fuel to the shield as possible.

Fighters: It's best to turn your engines off to conserve fuel and keep on the windows (press H). Fighters have to be shot three times before they explode and reveal the fuel pod. To get the pod just keep it in sight and thrust hard towards it. Scavengers need only one shot to destroy them. The number of fighters depends on the strength of the planet.

Ground attack: This is the easy bit. All you have to do here is avoid the moving rectangles, missiles and vertical lasers and blast away at everything else. Go at full speed to save fuel.

Ventilation duct: Stay at half speed and just try to dodge everything. Be particularly careful with the irises.

Control rooms: Each planet has either a reactor or a battle computer. Just shoot it and fly out of the door that opens. Otherwise you return to the ground attack or ventilation duct of that planet.

The easiest system is Beta, then Alpha and Delta. Do epsilon last: this is the toughest. When refuelling in the module, fill up only your energy bar or you'll never

be able to complete the game.

FOURTH PROTOCOL

Some excellent tips for the first part of this game of intrigue and deception that should enable you to complete it.

On June 8 you receive a memo asking you to install security systems in the CO Data Analyst building, to which you must reply yes. The basement must be locked in the following way: both computer-room doors, the office and the data storage area. On the ground floor you need to lock the main entrance doors, the desk and key room, the office, the security door and the meeting room. If you carry that out correctly you'll get another memo later on which requires you to decide on the order of importance of the following:

1. Computer audits by system analysts.
2. Special password changed weekly.
3. Special keys to secure areas.
4. Phone call through human operators.

Their correct order of importance is 2431, which should stop hackers getting into the system.

Cencom contains the file Telephone which lists three numbers: Blenheim computer 04382731, medical security 71288989, and Sir Anthony Plumb 12377563.

The last number should be used when the player knows all the details about the traitor and his contact. Don't dial it if you aren't sure because you will lose valuable prestige points.

Medical security can be called only after Bracton has called you. Bracton seems obsessed with calling you so read his file along with Thorn's. Blenheim's computer can be called at any time; by giving the decoded password you're given at the start you can transfer files to Cencom, where they can be examined.

Among the files you can get from Blenheim are: Nato, paper 1, paper 2, paper 3, paper 4, paper 5, MoD, Cabinet, Foreign, Abbs, Stanistav, pizza, maras, Pastemak, Faulkner, Bracton, Thorn, Blodwyn, trad, names, delivery, Nilson, Omparde, Shoukir and Fox. By analysis of the files papers 1-5, MoD, Cabinet and Foreign you can narrow the traitor down to one of five men who had access to all the documents and photocopier.

Generally the more watchers you have on a target the faster you get the results. Always answer the phone quickly because some of the calls are very important. Never have watchers on targets that have already been dealt with as it loses prestige points. Some targets such as Warburton and Banister require the full 25 watchers to get results.

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

Art Studio

A Review of the package for 6128's only from Rainbird

If you want to buy an art package for your Arnold, you'll find you're spoilt for choice. Under the circumstances any new system needs to be something really special if it's going to survive. Rainbird has just released *ART STUDIO* for the 6128 and special is certainly the word for it.

Two things struck me immediately about the package: first that it works only in Arnold's two-or four-colour modes (modes 1 and 2) rather than the more normal multi-colour mode O, and second that it is strongly inspired by the Apple Macintosh and similar WIMP (Window, Icon, Mouse, Pull-down menu) systems.

How you feel about the first of these is very much a matter of taste - I can't say I miss mode O myself, but it does seem an odd omission. As for Art Studio being WIMP-inspired, that's pretty common these days. The difference here is that where most packages aim to look like the Macintosh, Art Studio sets out to perform like it - and to a considerable extent it succeeds.

PROTECTION

The first thing you'll notice about the system is the Lenslok protection it uses. I've had my rant in the past about honest users being saddled with cumbersome protection systems, and I'd certainly call Lenslok cumbersome - but in this case there is a reason for it.

Rainbird doesn't try to stop you from making copies of Art Studio;

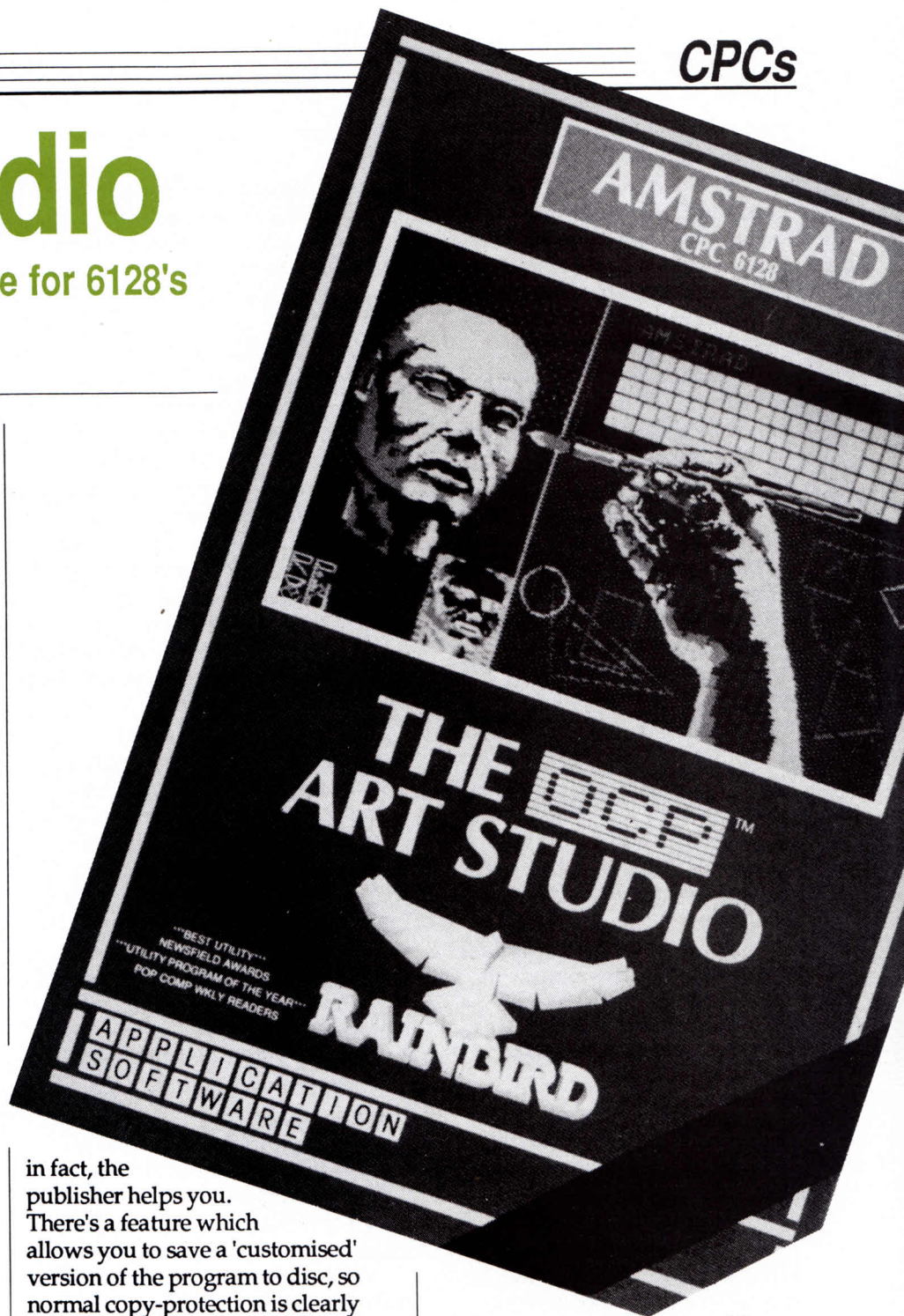
in fact, the publisher helps you. There's a feature which allows you to save a 'customised' version of the program to disc, so normal copy-protection is clearly not going to work. Given that the program is easily usable without the manual, Lenslok is the only alternative to actually trusting people.

SELECTING PULL-DOWNS

Once you've got past the protection system to the program itself, you're presented with the usual blank screen. There's a series of

options runs across the top of the screen, and a small 'arrow' pointer. You can move the pointer around using cursor keys, joystick, or even a mouse if you're lucky enough to have one.

To select one of the options just move the pointer to it and press 'select'. (That's the space bar on the keyboard or the fire button on the joystick.) Selecting an option



produces a *pull-down-menu* - a list of further options which overlays part of the screen like a roller window blind. Choosing one of the options on a pull-down works the same way: move the pointer to it, press 'select' and there you are.

PAINTING AND SHAPES

The first options you're likely to be interested in are *Paint* and *shapes*. Between them these offer you all the main features you'll need to create your pictures.

The *Paint* pull-down provides the three main tools - pen, brush and spraycan - in a variety of different shapes and sizes. On selecting pen, for example, you'll get another pull-down panel demonstrating the sixteen different shapes of pen available. Just move the pointer to the appropriate shape, press 'select' and you're in pen mode. Move the pointer onto the drawing area and it turns from a little arrow to a little pencil. Hold 'select' down, move this pencil pointer and you'll draw a line.

The brush and spraycan options work in the same way, but with brush - and spraycan-shaped pointers instead of the little pencil shape. These different-shaped pointers are meant to remind you which drawing or painting mode you're in, and like pull-downs they make the program very easy to learn without the use of the manual.

Although the available ranges of pen shapes and spray patterns are both fixed, you can alter the selection of brushes to suit your needs using the *edit brush* option on the *Paint* pull-down. Choosing this option gives you a brush-editing menu where you can alter the pattern of dots that forms each brush. This comes in two stages, the *data* and the *mask*. Put simply, the mask defines how much of the background the brush wipes out and the data defines

how much new colour the brush applies.

The *Shapes* pull-down allows you to 'rubber-band' straight lines, triangles and rectangles. You can also draw circles and plot individual points.

FILL AND UNDO

Once you've created a drawing with *Paint* and *Shape* you can flesh it out a bit with the different options from the *Fill* pull-down. There are two main types of fill available: *solid* and *over*. Solid fill works on an area of one colour and stops at the edges of that area. With *overflow* you outline an area with (say) blue and any colour inside is changed to blue. For most purposes you'll want to use a solid fill.

As well as filling with flat colour, you can solid-fill an area with one of 32 different textures. The predefined textures include grid, fine checks and wavy-lines, but if you can't find the one you want you can define one of your own using *edit texture*.

Over is the riskier proposition, but either kind of fill can 'escape' through the tiniest of gaps. Fortunately there is a way of reversing a fill or any other kind of drawing operation that goes wrong. Of the various options across the top of the screen only one works immediately rather than offering you a pull-down of further choices. That option is *Undo*.

The extra memory on the 6128 allows for certain luxuries, and *Undo* is one of them. Instead of keeping just one copy of your picture in memory the way most art programs do - the copy you're working, that is - *Art Studio* keeps a spare one as well. Every time you switch drawing mode or perform some similar operation, *Art Studio* brings the spare copy up to date. This means that when you're halfway through

performing a series of fills or whatever, *Art Studio* still knows what your picture looked like before you started filling. When you select *Undo*, the program restores your working copy to the same state as the spare.

This spare copy of your picture isn't used just for *Undo*. It also makes possible the wash *texture* option on the *fill* pull-down. This remarkable feature takes all the changes you've just made to the picture - all the things that *Undo* would undo - and fills them with texture. This effectively allows you to paint, spray and draw with textures rather than solid colours. While you can't actually see the effect until you've selected *wash texture*, it remains a very powerful technique.

MAGNIFY

Another benefit of the 6128's extra memory is the *Magnify* option. Rather than the small magnification window offered by most packages, *Art Studio* gives you a full-screen image. You can enlarge a given area of the screen by 2, 4 or 8 times.

Simply select the appropriate enlargement factor from the *Magnify* pull-down, move the cursor (now shaped like a magnifying glass) to the area of your drawing which you want enlarged and press 'select'. The screen now fills with an enormous blown-up section of your picture.

Though there's no normal-size image of the magnified area you're working on, you're unlikely to find this a problem. The large window means that on x2 magnification you can see almost a full quarter of your picture - easily enough to see what you're doing to the picture as a whole. You can switch between the different enlargements without returning to the main menu. On x8 there's an optional grid to make it clearer where one pixel - one individual

dot of colour - ends and the next one begins.

Your free to pan the *Magnify* window across the picture by pointing at and selecting the Macintosh-style 'scroll-bars' along the top and left edges of the window itself. You can make fine adjustments to the picture using any of the available colours, and undo them again if they don't look right. Every possible consideration is given to the keyboard-only user, with sensibly chosen keys to switch colours and pan the window.

TEXT

If there's a central theme to Art Studio it's thoroughness. Text entry, an afterthought in most packages, is given the fullest treatment you could ask for. You can use text in any of three widths and heights, combining them freely to get a wide range of shapes.

Your text can run left to right or top to bottom, and the letters can be upright or sideways. There are also bold and italic options which can produce very useful if rather crude results. If you want to do anything more complex with text, the *font editor* option takes you into a whole new league.

When you select *font editor* you're presented with a whole fresh screen dedicated to lettering styles. The full character set of the current font is displayed on the bottom half of the screen, while at the top there's a detailed view of the character currently being edited. You can scan through the character set, scroll an individual character or the whole font in any direction, make minute alterations to the current character, or clear it and start from scratch.

Several fonts are supplied on the Art Studio disc, and you can save modified versions of these or your own original fonts for later use. If you wanted to create foreign

alphabets or scientific symbols for diagrams, you should find this way simple. Of course most people aren't going to bother with all this, but most packages wouldn't give you the option in the first place.

WINDOWS

Once you've created your picture you might well want to make large-scale alterations to it. The *Windows* pull-down offers a strong set of special effects based on the idea of a 'window' - a rectangular area of the screen defined by stretching a 'rubber box' round it.

Windows can be copied, moved or cleared. They can be rotated through 90, 180 or 270 degrees, mirrored horizontally or vertically, and stretched or squashed in either direction. You can use a window like a paint-brush with the 'smear' option, or merge it with the previous contents of the area you're copying it to.

Windowing needn't involve moving an area of the screen around. The *swap inks* and *change ink* options allow you to alter the colours of a windowed area, and are particularly powerful for creating special effects.

Everything possible is done to reduce the effort needed in defining windows. You can define the whole screen as a window simply by selecting *whole screen* from the pull-down, or redefine the previous window using *last window*. If you want to make several copies of the same thing you can set the copying mode to 'multiple'. This means that Art Studio automatically redefines the last window after each operation on it, cutting in half the amount of selection you have to do.

FINISHING TOUCHES

The file-handling and printer-dump options show the

thoroughness and ease of use characteristic of the program as a whole. The printer option is particularly well thought out, with just about every feature you could ask for to cope with the quirks of different printers.

The manual is excellent, though you probably won't find you need to refer to it all that often. For most people its chief function will be to point out all the many excellent features which you could otherwise easily miss. The program is so natural and self-explanatory that you can work out most of the main features just by sitting down and using it.

VERDICT

Of all the many art packages available for the Arnold, this has to be the best. The only real shortcomings are the lack of a mode-0 facility and the need for a 128K system; Lenslok is an additional annoyance. These are far outweighed in my book by the enormous power, ease of use and attention to detail which are visible in every aspect of the system.

While Art Studio is easy to operate from the keyboard - you can even define your own keys if you like - or a joystick, plugging in an AMX or Kempston Mouse turns it into an absolute joy. An awful lot of packages use icons and pull-downs just to be fashionable but Art Studio makes them earn their keep.

If you're after an art package that feels natural, gives good results quickly and that you won't outgrow, Art Studio must be the one.

PLUSES - Extremely powerful, handles well with keys, joystick or mouse. First rate manual. UNDO makes for experimentation without tears. Can save customised versions to disc.

MINUSES - No mode 0. 664 owners will need 64k of add-on RAM, and 464 owners will need a disc drive too.

Intelligent Menu

by Chris Collins

This is a very simple and short program for the Amstrad CPC computers, which permits you to CAT a disc, select the program you want and LOAD, RUN or DELETE it with the minimum of typing.

One of the more commonly used methods of providing a menu of programs to select from, is to create a menu program and insert the programs' names into it. This is all very well for a disc on which the contents rarely change but it is a pain otherwise, as you must keep adding program names and resaving it.

This program is in effect 'an intelligent menu' in that it doesn't matter what programs are on the disc. In fact you can load the program and then change the disc if you wish.

There is not much that can be said about the operation of the program as it is all prompted. When presented with the menu in mode 2, use the cursor keys to move the arrow to the program that you wish and press <ENTER>. A message will tell you the program that you have selected and ask you to select from LOAD,RUN,DELETE or Cancel by selecting the appropriate letter.

If you select DELETE, you are warned and asked to confirm with 'Y'. Any other key resets the arrow, for you to select again. Cancel will return you to the same position. Having selected L or R the program will be loaded or run as appropriate.

The program should be typed in and then saved with the title 'DISC'. A copy should be kept on each disc, so that all that is required is to insert the disc and RUN"DISC

There are two versions of the program. One to run on the 664/6128 and a version with a small machine code routine for the 464/DDI because the 464 doesn't have a COPYCHR\$ command.

There will be a problem with some basic loader programs in that they will require a 'MODE' command inserted so as to reset the window commands that are used in the program.

HOW IT WORKS

<u>664/6128</u>	<u>464</u>	
20	20	Sets up an error routine and then recommences the program at line 110.
40	40	Sets up windows.
50 - 80	50 - 80	Draws outline.
90	90	CATS then clears windows.
-	100	Jumps to routine.
100 - 230	110 - 240	Position cursor and move cursor around the screen.
240 - 260	250 - 270	Locate cursor and read program name to the screen.
270 - 280	280 - 290	Checks that 9th character is a full stop <.> and if not reports ERROR 200 and then to 330.
290 - 300	300 - 310	Prints program name and asks for selection.
310	320	Checks for DELETE and asks for confirmation.
320	330	Checks for LOAD or RUN and carries out instruction or reruns the program.
-	360 - 410	Machine code routine.

Tape subscribers please note that both versions of the program appear on this month's tape. They are named MENU464 and MENU6128. No prizes for guessing which is which!

CPC 464 Version

```

10 'disc auto loader for 464/DDI
20 ON ERROR GOTO 340
30 DEFINT a-z:INK 0,1:INK 1,24:BORDER 1:MODE 2
40 WINDOW#0,2,79,1,24:WINDOW#1,15,18,4,20:WINDOW#2,35,38,4,2
0:WINDOW#3,55,58,4,20:WINDOW#4,75,78,4,20
50 PLOT 1,1:DRAW 1,399:DRAW 639,399:DRAW 639,1:DRAW 1,1
60 PLOT 5,5:DRAW 5,395:DRAW 635,395:DRAW 635,5:DRAW 5,5
70 PLOT 5,74:DRAW 635,74:DRAW 5,74
80 PLOT 5,78:DRAW 635,78:DRAW 5,78
90 CAT:CLS#1:CLS#2:CLS#3:CLS#4
100 GOSUB 360
110 PRINT "Position cursor and press RETURN to select."
120 across=1:down=4
130 PRINT CHR$(22)CHR$(1)
140 WHILE INKEY(18)<>0
150 LOCATE across,down
160 PRINT SPC(14)CHR$(242);
170 WHILE INKEY$="":WEND
180 PEN 0:PRINT CHR$(8)CHR$(242):PEN 1
190 down=down+(INKEY(2))-(INKEY(0))
200 across=across+20*(INKEY(1))-20*(INKEY(8))
210 IF down<4 THEN down=4 ELSE IF down>19 THEN down=19
220 IF across<1 THEN across=1 ELSE IF across>61 THEN across=
61
230 WEND
240 PRINT CHR$(22)CHR$(0)
250 a$="":FOR offset=0 TO 11:LOCATE across+offset,down
260 CALL address,@char:a$a$+CHR$(char)
270 NEXT
280 LOCATE 1,22
290 IF MID$(a$,9,1)<>CHR$(46) THEN ERROR 200
300 PRINT "You have selected      "a$
310 PRINT:PRINT "LOAD, RUN, DELETE, or Cancel L/R/D/C":WHILE
INKEY$="":WEND
320 IF INKEY(61)=0 THEN LOCATE 50,23:PRINT"CONFIRM DELETE Y/
N":CHR$(7):WHILE INKEY$<>"":WEND:WHILE INKEY$="":WEND:IF INK
EY(43)=0 THEN :ERA,a$:RUN
330 IF INKEY(36)=0 THEN MODE 1:LOAD a$ ELSE IF INKEY(50)=0 T
HEN RUN a$ ELSE RUN
340 IF ERR=200 THEN LOCATE 50,23:PRINT "Invalid Selection":C
HR$(7):RESUME 120 ELSE RESUME
350 END
360 address=&900:char=0:FOR offset=0 TO 10
370 READ dat$
380 POKE address+offset,VAL("&"+dat$)
390 NEXT
400 DATA CD,60,BB,DD,6E,00,DD,66,01,77,C9
410 RETURN

```


CPC 664/6128 Version

```
10 'disc auto loader for 664/6128
20 ON ERROR GOTO 330
30 DEFINT a-z:INK 0,1:INK 1,24:BORDER 1:MODE 2
40 WINDOW#0,2,79,1,24:WINDOW#1,15,18,4,20:WINDOW#2,35,38,4
,20:WINDOW#3,55,58,4,20:WINDOW#4,75,78,4,20
50 PLOT 1,1:DRAW 1,399:DRAW 639,399:DRAW 639,1:DRAW 1,1
60 PLOT 5,5:DRAW 5,395:DRAW 635,395:DRAW 635,5:DRAW 5,5
70 PLOT 5,74:DRAW 635,74:DRAW 5,74
80 PLOT 5,78:DRAW 635,78:DRAW 5,78
90 CAT:CLS#1:CLS#2:CLS#3:CLS#4
100 PRINT " Position cursor and press RETURN to select."
110 across=1:down=4
120 PRINT CHR$(22)CHR$(1)
130 WHILE INKEY(18)<>0
140 LOCATE across,down
150 PRINT SPC(14)CHR$(242);
160 WHILE INKEY$="":WEND
170 PEN 0:PRINT CHR$(8)CHR$(242):PEN 1
180 down=down+(INKEY(2))-(INKEY(0))
190 across=across+20*(INKEY(1))-20*(INKEY(8))
200 IF down<4 THEN down=4 ELSE IF down>19 THEN down=19
210 IF across<1 THEN across=1 ELSE IF across>61 THEN across=61
220 WEND
230 PRINT CHR$(22)CHR$(0)
240 a$="":FOR offset=0 TO 11:LOCATE across+offset,down
250 a$=a$+COPYCHR$(#0)
260 NEXT
270 LOCATE 1,22
280 IF MID$(a$,9,1)<>CHR$(46) THEN ERROR 200
290 PRINT " You have selected      "a$
300 PRINT:PRINT " LOAD, RUN, DELETE, or Cancel L/R/D/C":WH
ILE INKEY$="":WEND
310 IF INKEY(61)=0 THEN LOCATE 50,23:PRINT"CONFIRM DELETE
Y/N";CHR$(7):WHILE INKEY$<>"":WEND:WHILE INKEY$="":WEND:IF
INKEY(43)=0 THEN :ERA,a$:RUN
320 IF INKEY(36)=0 THEN MODE 1:LOAD a$ ELSE IF INKEY(50)=0
THEN RUN a$ ELSE RUN
330 IF ERR=200 THEN LOCATE 50,23:PRINT "Invalid Selection"
;CHR$(7):RESUME 110 ELSE RESUME
340 END
```


TIP-OFFS

Presenting the lowdown on LocoScript, CP/M, life, the universe and avoiding the PCW hair-tear syndrome.

KEY CONVENTIONS

On these tips pages we've used the following conventions in explaining keyboard commands.

1. All commands which you are to type on the keyboard are printed in bolder text.
2. Where we want to refer to a single key such as "Return" or Extra", we print them inside square brackets. Therefore "Type DIR [RETURN]" means to type the letters D, I and R, followed by the large "Return" key.
The Set and Reset keys on either side of the space-bar we refer to as: [+] and [-].
3. Many keyboard effects require the use of the "Shift", "Alt" and "Extra" keys in conjunction with another key. We represent this with a lightly-printed plus-sign. So "Type [ALT]+P" means to hold down the "Alt" key and type the letter P. The use of "Shift" however is normally obvious and will be ignored. For example we would refer to the [f8] key rather than to [Shift]+[f7].

Command line editing

The PCW has a way to allow you to edit the previous command line that you typed in CP/M. This is very useful if you mistyped a long command since it saves a lot of retyping.

At the CP/M "A>" command prompt, and even in some programs like PIP, if you press the [PASTE] key, the last line you typed will appear with the cursor at the end of it. Then you can use the cursor left and right keys and the two delete keys to edit the line. Press [RETURN] to run the amended command when the line looks correct, and if

it's still wrong you can use [PASTE] again to repeat the process.

Stopping a printout

Have you ever been in the position when you've finished a LocoScript edit with the "Save and Print" option, only to realise too late that the document is still wrong, and you have to sit and wait while 37 useless pages churn out?

In case you haven't mastered the ins and out of the printer, then there is a way to cancel printing very fast. From anywhere in LocoScript, just press [PTR], then [f7] (for "Reset"), then

[ENTER] to confirm. Finally, of course, [EXIT] to leave the printer menu.

Overprinting

One feature that LocoScript lacks is a backspace facility to allow you to create composite characters by overprinting on the printer. However, there is a way round this, albeit longwinded.

The solution is to put the characters you want to superimpose on separate lines one below the other on the screen while editing your document, and set the line spacing to zero between those lines. Here's an example: suppose you want to show a word having been crossed out with hyphens.

(1) Make sure you are not using proportional spacing - change to 12 pitch if you are.

(2) Type the basic line of text and press [RETURN].

(3) Type the strike out hyphens on the next line down, in the same columns as the characters that they are to cross out in the line above.

(4) At the start of your basic text line, set the line spacing to 0.

(5) At the start of the hyphen line, set the line spacing back to 1 (or whatever it was originally).

(6) Carry on using LocoScript as normal.

Two jobs at once

The PCW has several pairs of hands - you can print a file from LocoScript at the same time as editing another. But you can go further than this; if you're editing a long file, you might want to print another file without having to save your current edit and restart all over again.

While editing your file, press the [f7] key and select the "Disc management" menu option. The editing screen will vanish and you will see the same file directory screen as when you aren't editing a file. Now you can print, move and delete files in the normal way. To get back to your edit, just press [EXIT]. This might come in handy if you realise while editing that your disc is full and you want to make some space to save your edit. Go to the disc manager and move enough files from the floppy disc to the M: disc to make space. When you've saved the edit you can juggle the files around onto fresh discs.

Typing ahead

If you're working with documents of five pages or more in LocoScript, you will by now have discovered that it takes a long time to scroll from the start to the end if you want to add some text at the bottom. There's a new version of LocoScript due out soon which will avoid this, but you can still partly get round it now.

The PCW stores up keystrokes if you get ahead of it - this is called a "type-ahead" facility. So if you want to get to page 13 of a 20 page document, just type [PAGE] 12 times in quick succession (12 not 13, because you start on page 1, not page 0!). OK, this doesn't

get you there any faster, but at least you can go away and make a cup of tea while the PCW does it all for you. You can use the same principle in many other parts of LocoScript. For example, wherever there are sequences of menus you go through regularly, you can type the relevant sequence of key-strokes all at once without actually waiting for the relevant menus to show on screen.

Using foreign characters

Maybe you're having trouble writing to your pen pals in Outer Mongolia. Here's a quick guide to using accented foreign characters on your PCW. Look on page 10 of the LocoScript manual - you will see three diagrams. The bottom one shows the characters you get by holding [EXTRA] down and then pressing each key. The keys that are ordinarily the number keys (1 to 0) show a selection of accent marks, acute, grave, umlaut, circumflex etc. To get an accented character, first type the accent (e.g. [EXTRA]+6 for acute); the cursor will not move on a column on the screen like it normally does. Now type the character (e.g. 'e'), and you will see it properly printed on the screen. It can be deleted, moved and printed like any normal character. Note that c-cedilla has a key all to itself, [ALT]+[comma]. By the way, these accents are only available in LocoScript, not in other word-processors you might have such as Wordstar or NewWord.

Working with Basic

There are a couple of shortcuts you can use while

typing in Mallard Basic programs, which require some dedicated ferreting to unearth from the depths of the manual.

Probably the most used command in Basic programs is PRINT. In most it has to be typed many times. However, you can type a question mark instead, with just the same effect. For instance, while in Basic type ?2+2, and you will get 4. Now incorporate it into a program line, e.g. 30?2+2

and then LIST it. You will find it now reads 30 PRINT 2+2 You do not need a space either between the line number and the ?, or between the ? and what follows, so there is a saving of several keystrokes. Another useful shorthand is to replace REM by a single quotation mark: 10 ' THIS IS A COMMENT This has the same effect as REM, but unlike the PRINT/? case, it does not actually print out as REM when LISTed. It's often useful to create some breathing space in the middle of a long program, for example: 130 (END OF ONE SECTION) 140 ' 150 (START OF NEXT SECTION)

Saving Basic Programs

If you save Basic programs that are not finished or still need work done on them at a later date, then you may end up with a file full of odds and ends. It's then you find you can't remember what MYFILE.BAS is.

If the program isn't in final form, a good idea is to save it using the form specifier A, ie. SAVE "MYFILE.BAS,A" This saves the program as

an ASCII file, so you can use the CP/M command TYPE. This way you can check your Basic files easily without having to load each one just to see what it does.

Note that when you want to load a file later (with the LOAD command), it doesn't matter whether the file has been saved using ",A" or not. Also if you do save a file with ",A", you can always change your mind and save it normally at a later date.

Feeding continuous paper

The back plate of the PCW printer is normally positioned with the ribs facing forwards and the back plate at a steep angle. This is the normal position for single sheet stationery, but can cause problems when using continuous stationery.

Just remove the back plate and turn it around, so that the ribs face backwards, and replace it on the printer. It will then lie at a flatter angle which is much better for separating incoming from outgoing continuous stationery. One potential problem can occur with the tractor feed mechanism. Usually the paper bulges in the middle as it goes over the tractors, and this bulge then causes problems when the paper has to bend upwards to go up the back plate.

The cure for this is the latest 'High-Tech' accessory for Joyce - a 10 inch length of 1" dowel! This is placed as a roller across the paper in the dip behind the tractors, where it flattens the offending bulge and allows it to bend freely. This permits carefree printing of long documents unattended without fear of a paper jam.

Editing ASCII files in LocoScript

Producing ASCII files in LocoScript is easy, simply involving use of [f7] (Make ASCII file) at the Main Menu stage. However, it is not immediately evident how you load an ASCII file in order to word process it. Trying to EDIT one directly produces the response "Not a LocoScript document". Fortunately it is possible to do this. Simply CREATE an empty document and then press [f7] while editing it and select INSERT TEXT. Choose the ASCII file you wish to edit as the text to be inserted, and then use LocoScript to process it normally. Note that when you save the document again it will be in normal LocoScript form, not ASCII. If you want to, you can use Make ASCII file to reconvert it.

Function keys in CP/M

Although the keys [f7] to [f8] are primarily designed for use with LocoScript, they also have specific meanings within CP/M. They are either useful while running programs like Wordstar, or just at the ordinary "A>" prompt.

For example, if you read last month's tip-offs, you will know that [ALT]+P makes the PCW printer echo everything you type from then or until you type it again. The key marked f7/f8 will do this at a single keystroke. The full definitions are as follows: f1/f2 is [ALT]+Z f3/f4 is [ALT]+Q f5/f6 is [ALT]+S f7/f8 is [ALT]+P

Long lines in LocoScript

When preparing text for printing in 15 or 17 pitch, it is often a nuisance that lines

of more than 90 characters run off the right hand edge of the screen.

If the margins for the base layout are set at say 0 and 80, and Layout 1 at the full width settings, then the text can be prepared in the base layout so that it is all visible. Then as the last thing, just insert Layout 1 at the top of the document, press [SHIFT]+[PAGE] to run to the end of it and everything will be relaid in the correct width for printing.

Deleting LocoScript phrases

Since there is a limit to the overall number of characters you can have stored as phrases, if you want to define some very long phrases you might have to delete some others to make room.

Unfortunately there is no "delete phrase" function directly available. What you have to do is store a new phrase with nothing in it in place of the old phrase. To do this, press [COPY] [COPY] and then the letter of the phrase you wish to delete. Don't forget that amending phrases is normally only effective for the current work session and you have to save the changes (or deletions) if you want to use them again. When you 'f8 Save All Phrases', LocoScript creates a new PHRASES.STD file in Group O of Drive M. This will have to be 'f3 Copy'd across to your Load-Up disc.

Overcoming LocoScript's sloth

LocoScript is often said to be very slow in handling long documents. One way round this is to split a long document into several short files, at most 10 or 12K long

each. Editing each one is now relatively painless, since they are quite short. Now when you've finished all the editing and want to print out the whole document, edit the first file and move to the end of it. Make sure it ends in [RETURN] and the special features like italic and bold are turned off. Then use [f7] and "Insert text" to insert the second file, which will run through ending conveniently at the place to insert text again. Now use [f7] to insert the third file, and so on.

This way LocoScript will easily handle a file of up to half the disc space in length - 360k on an 8512. Even Tolstoy would have been able to manage with that!

Getting a bigger disc drive

There is a simple underhand way of upping the size of your disc drive by using CP/M's SETDEF utility. You can tell CP/M that if it doesn't find a file on a certain drive, to look on another one for it. Since it will then do this automatically, the second drive can be thought of as an expansion of the first. Here's how it works:

If you have an 8256 and your program is too big to fit in its M: drive, then copy over all the files that will fit anyway. Make up a work disc which contains only the files that wouldn't fit on M: which hopefully leaves you with a generous space left to work with on the disc.

Now, with A as your default drive, type SETDEFM:,* Whenever you try to read a file while using A as the default drive, it will now look first on the M drive and then on the A drive without you

having to specify which, just as though you had a single drive big enough to hold all the files at once. If you create a new file, it will go to the default drive, A rather than M, so new files are safely stored on a real floppy rather than the more dangerous RAM disc.

Scrolls of screens

One of the frustrations of the PCW is its inability to scroll the screen by a pageful at a time. Many people have been reading a long document on screen and pressed [PAGE], only to discover the top few lines of text disappearing off the top of the screen.

However, if you press [SHIFT] with the up or down cursor keys, you will see that this moves the cursor by approximately 2/3 of a screenful at one go.

Also, [SHIFT] plus the left or right cursor keys moves the cursor to either the end of the line or (better still) back to its starting point.

Basic hacking

Here's a challenge for all CP/M and Basic experts out there. The short listing shown below will allow you to look at any part of the PCW's memory, although since you are running Basic the TPA will necessarily always show Mallard Basic. A couple of fun areas to look at are around 4500 (Basic error messages) and around 20000 (Basic keywords). But here's an oddity - the characters at and following 22466 say "Acorn computers". Can anyone explain why?

```
10 INPUT "start" ; st
20 INPUT "End" ; ed
30 FOR a=st TO ed
40 mem$=CHR$(PEEK (a))
50 IF ASC (mem$) > 127
THEN mem$=CHR$(ASC
```

```
(mem$) - 128)+CHR$(9)
60 IF ASC (mem$) < 32
THEN mem$=CHR$(9)
70 PRINT mem$;
80 NEXT: END
```

To coin a phrase

LocoScript's phrases provide a convenient way of typing often used words into documents. Owing to covert pressure from the Estate Agents Mafia, the standard set of phrases you get includes such useful gems as "convenient for the M62" and "on frequent bus route". However, there is a second set of phrases which are useful for letter writing hidden in the group and named TEMPLATES of the LocoScript master disc, in the file PHRASES.LET. These are:

- A: For the attention of
 - B: By return of post
 - C: With Compliments
 - D: Dear Sir/Madam
 - E: Please find enclosed
 - F: Yours faithfully
 - L: Thank you for your letter of
 - M: Please mark the envelope for the attention of
 - O: Our Ref
 - P: Private and Confidential
 - R: We look forward to your reply
 - T: Thank you
 - V: R.S.V.P.
 - W: With reference to your
 - Y: Your Ref:
- To be able to use these, take your LocoScript startup disc and rename (f5) PHRASES.STD as PHRASES.OLD. Then move (f4) PHRASES.LET to the first group renaming it PHRASES.STD. The new phrases then come into effect the next time the computer is switched on. There is room for you to add a number of other phrases such as address and name, "Yours sincerely" etc.

Making up a NewWord boot disc

NewWord is a word processing package that is becoming increasingly popular with PCW owners. Although it comes with a very meaty manual, this doesn't in fact address Amstrad specifics at all, and the additional sheet and READ-ME file that NewStar distribute are only of limited help.

There's an easy bit and a hard bit to making a very useful automatic booting disc.

First the easy parts:

- Find a blank side of a single density floppy disc, and using PIP copy from your CP/M master disc onto your blank disc, the files J14CPM3.EMS, PIP.COM, SUBMIT.COM, SETKEYS.COM, and KEYS.WP.

- Copy from the NewWord delivery disc the files NW.COM, NW.OVR and NWMSG.SOV.

Now for the hard bit. There isn't enough room to store the final file that NewWord requires, NWPRINT.OVR, without first "installing it" for the PCW. This allows most of the file to be discarded since some parts are irrelevant to the Amstrad.

Here's what you do.

- Copy from the NewWord delivery disc to the M drive the files NWPRMAKE.COM and NWPRINT.OVR.

- Type M: to set the default drive to M:, and type NWPRMAKE NWPRINT.OVR.

- You will see a host of names of printers on the screen, and although none of the options mention Amstrad or PCW, the right one is number 7 (unless you are using a different printer). Press 7 [RETURN].

- Now copy NWPRINT.OVR from M: onto your boot disc.

- Finally, you have to create a file to tell CP/M what to do

when it starts up. Put your boot disc in the A: drive and run NewWord from it by typing NW. As described in the NewWord delivery sheet, create a non-document file (type N) called PROFILE.SUB with the following lines in it: SETKEYS KEYS.WP

ends with a [RETURN], and finish editing. Note the trick in the last line: because of the way SUBMIT files work, LA is passed through to NewWord as the first command to run, so it automatically changes the logged drive to A, where your data files are, (if you

```

SYSTEM INSTALLATION MENU

A Install legal drives          F Install for shared-file system
B Install alt. user # for overlays G Install for single-user TurboDOS
C Install for single-user CP/M  H Install for multi-user TurboDOS
D Install for MP/M II           I Let second user view document? Y/N
E Install for CCP/M 816

J Help with current menu       X Return to Main Menu

What is your choice? A

The drives that Newword can currently use are...
Fixed:
Removable: A
Do you want to change this? Y/N █
    
```

▲ To allow NewWord to recognise drive M, select option A from the System installation Menu.

▼ That produces this screen. Using our method, the order in which you specify the drives is not important.

```

Enter the letters (A-P) that are valid drives on your system. The first
drive you specify will be used as the default drive. You will also be
asked if each drive has a removable disk (as opposed to fixed).

Drive? (A-P, or RETURN when done) A
Is this disk removable? Y/N Y

Drive? (A-P, or RETURN when done) B
Is this disk removable? Y/N Y

Drive? (A-P, or RETURN when done) M
Is this disk removable? Y/N N

Drive? (A-P, or RETURN when done)

The drives that Newword can currently use are...
Fixed: M
Removable: A B
Do you want to change this? Y/N █
    
```

```

PIP
<M:=NW.COM
<M:=NW.OVR
<M:=NWMSG.SOV
<M:=NWPRINT.OVR
<
M:
NW
<LA
Make sure that the last line
    
```

have an 8512 you might prefer to make the B drive the default drive by substituting <LB.) You can take this further and add other initialisation commands of your own at the end of PROFILE.SUB each line preceded by the < symbol. However, if you're

doing a lot of initialisation commands you ought to try and customise your NewWord permanently using the NWINSTAL program - more of this below, and in the NewWord manual.

Now with your boot disc in the A drive, if you reset the PCW with [SHIFT]+[EXTRA]+[EXIT], NewWord will automatically start up and run from the M drive, but use A as the drive on which files are saved.

You will notice that when running NewWord as it is delivered that you cannot change the logged disc drive to M. This is because it comes pre-installed without M declared as a legal drive (the reason being to prevent you holding data files on M). If you want to override this, it can be done fairly easily by "re-installing" the program.

To do this, first of all ensure that you have the NewWord files on your M disc and that M is your default drive (i.e. the CPM prompt is "M>"). Now put your NewWord master disc in the A drive and type A:NWINSTAL [Return].

The name of the file you need to install is NW.COM, and the file to hold the new version to is also NW.COM.

At the first options menu you see, type C for "Computer related items", and then A at the next menu for "Install legal drives". Now follow the screen prompts to declare all three of A,B and M as legal drives - drives A and B are "removable", and M is "fixed". Exit back through all the menus, and test out your change by running NewWord.

When you are sure everything is OK, you can copy the amended NW.COM file to your boot disc, and that will make your changes permanent.

PROGRAMS FOR YOUR AMSTRAD CPC464 to PC1512

PRODUCT	DESCRIPTION	MACHINE	RETAIL	PRODUCT	MEMBER PRICE
			\$		\$
CASHTRADER	Cashbook Accounting (our bestseller)	6128-1512	275.00	QST001	245.00
CASHTRADER	With analyser for full reporting	6128-1512	375.00	QST002	333.00
EVALUATION COPY	Allows trying out before paying full amount	6128-1512	80.00	QST003	80.00
BUSINESS CONTROL SYSTEM	Inc. Sales/Invoicing/Stock control & ledgers	8256-1512	275.00	QST004	245.00
COMPLETE SYSTEM	Inc. Purchase & Nominal ledgers	8256-1512	495.00	QST005	440.00
PURCHASE LEDGER ONLY		8256-1512	99.00	QST006	88.00
NOMINAL LEDGER ONLY		8256-1512	99.00	QST007	80.00
EVALUATION COPY	Inc. all three modules	8256-1512	88.00	QST008	80.00
FILE EXPANDER	Allows the use of hard disc	8256-1512	99.00	QST009	88.00
WORDLINK	Allows linking with Wordstar etc	8256-1512	99.00	QST010	88.00
SHOEBOX	A powerful nominal ledger for Accountants	8256-1512	375.00	QST011	33.00
EVALUATION COPY	Inc. time recorder	8256-1512	80.00	QST012	80.00
TIME RECORDER	Professional cost analysis system	8256-1512	225.00	QST013	199.00
MATCHBOX	An electronic card file system	8256-8512	95.00	QST014	85.00
BARSTOCK CONTROL	Control system for any licensed premises	8256-8512	275.00	QST015	245.00
JOB COSTER	System for Tradesmen and Subcontractors	8256-1512	325.00	QST016	289.00
PAGEMAKER	Desktop publishing program	464D-6128	175.00	AMS001	158.00
MAGAZINE MAKER	As above including digitizer	464D-6128	425.00	AMS002	384.00
DIGITIZER	Use with a video source (camera)	464D-6128	295.00	AMS003	267.00
SANDPIPER ACCOUNTS	Purchase/Sales/Invoicing & Ledgers	8256-1512	385.00	SDP001	342.00
(Runs on 1 or 2 Drives)					
SANDPIPER DATABASE	Full relational database, a real beauty!	8256-1512	275.00	SDP002	245.00
3D VOICE CHESS	Superb graphics - the very best game in town	464-6128 (tape)	39.95	CPS001	36.00
		464D-6128D	45.00	CPS002	40.60
BRIDGE PLAYER 3	Leaves any other bridge game in the shade	464-6128 (tape)	39.95	CPS003	40.00
		464D-6128D	45.00	CPS004	40.00
3D CLOCK CHESS	Play against the clock absolutely superb	8256-8512	55.00	CPS005	49.50
8256 BRIDGE PLAYER	If you like Bridge this is for you	8256-8512	55.00	CPS006	49.50
LERNLOCO	LocoScript Tutor on disc. Very Necessary	8256-8512	39.95	BTH001	35.75
TYPEWRITE	Typing Tutor, runs inside LocoScript	8256-8512	39.95	BTH002	35.75
LERNLOCO/TYPEWRITE	Both on the one disc saves \$10	8256-8512	69.90	BTH003	62.55
PC PROMISE	Full relational database	1512 (IBM)	250.00	DDB001	224.00
MINI-OFFICE 2	Graphics/wordprocessor/spreadsheet/comms	464D-6128D	81.95	DBS001	71.95
MINI-OFFICE 2	Same for Disc Loading computers	464T-6128 (tape)	63.95	DBS002	57.70
PROSPELL	A spelling checker for LocoScript	8256-8512	95.00	AR2351	85.70
PROTEXT *NEW*	Inc. Prospell/Promerge/Utopia	8256-8512	24.00	ARS001	216.60
dBASE 2	The original Database System	8256-8512	395.00	FT2211	356.50
CARDBOX	An electronic card file system	8256-8512	180.00	CX5001	163.50
CARDBOX		1512-IBM	180.00	CX9001	163.50
BRAINSTORM	An ideas processor	8256-8512	150.00	CX5031	135.40
BRAINSTORM		1512-IBM	150.00	CX9031	135.40
SCRATCHPAD PLUS	Electronic Spreadsheet	1512-IBM	180.00	CX9041	163.50
SCRATCHPAD PLUS		8256-8512	180.00	CX5041	163.50
CONDOR 1	Relational Database	8256-8512	300.00	CX5051	270.75
CONDOR 1		1512-IBM	300.00	CX9051	270.75
CBASIC COMPILER	CBasic Language Compiler	8256-8512	150.00	DR2271	135.40
PASCAL MT/-	Pascal Language	8256-8512	150.00	DR2281	135.40
MIDI INTERFACE	Real-time digital recording system	CPC464/	450.00	ER1030	406.00
PASCAL 80	Programming Language	8256-8512	120.00	HT2021	108.30
DEVPAC 80	Editor/assembler/debugger	8256-8512	120.00	HT2051	108.30
THE TORCH	CPM Tutor and file organiser	8256-8512	50.00	HT2061	45.20
THE KNIFE	CPM Disc file editor	8256-8512	50.00	HT2071	45.20
C LANGUAGE	Programming Language	8256-8512	120.00	HT2101	108.00
FRENCH MISTRESS	Language Tutor in two parts	8256-8512	70.00	KS9551	63.20
GERMAN MASTER	Language Tutor in Two parts	8256-8512	70.00	KS9561	63.20
SPANISH TUTOR	Language Tutor in two parts	8256-8512	70.00	KS9571	63.20
ROTATE	Prints ASCII files sideways	8256-8512	85.00	LN1001	76.70
QMAIL *NEW*	Mailmerge for LocoScript 13500 names	8256-8512	99.00	LN1011	89.40
HANDS ON DBASE 2	Tutor on Dbase 2 (Disc)	8256-8512	85.00	MC3521	76.70
POCKET WORDSTAR	The original and best wordprocessor	8256-8512	180.00	MP8301	163.50
POCKET WORDSTAR	Including mailmerge and spelling checker	8256-8512	245.00	MP8351	221.00
PC WRITE	Word processor and 45000 spelling checker	1512 IBM	395.00	SA1081	357.00
PC PLANNER	Lotus 1-2-3 Clone	1512 IBM	395.00	SA1071	357.00
DESKSET	Office Productivity Tool	1512 IBM	395.00	SA1061	357.00
NUCLEUS	Applications and report generator	1512 IBM	325.00	CP2361	293.00
DAYBOOK	Purchase/Sales/Daybook and Nominal Ledger	1512 IBM	225.00	CP2301	203.00
ACCOUNTS	Sales/Purchase/Invoicing/Nominal ledger	1512 IBM	600.00	CP2341	540.00
STOCK CONTROL	Stock control system	1512 IBM	295.00	CP2371	267.00
INVOICING	Invoicing package	1512 IBM	295.00	CP2381	267.00
INTERFACER	To interface to other software packages	1512 IBM	295.00	CP2391	267.00
NOMINAL FINANCIAL REPORTER	Nominal finance reporting	1512 IBM	295.00	CP2411	267.00
ORDER PROCESSING	Order Processing	1512 IBM	295.00	CP2421	267.00
JOB COSTING	Job Costing	1512 IBM	175.00	NA6861	158.00

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PCW SOFTWARE GUIDE

These pages represent a comprehensive guide to software on the Amstrad PCW machines. We've set out to cover every piece of software we could lay our hands on and give you enough information on each one to enable you to decide which titles are likely to be suitable for what you need.

As well as a brief summary of the programs, we've listed their main Plus and Minus points.

The programs are divided into eight categories. And if you're thinking of buying one of the "big three" packages - word processor, spreadsheet or database - but have never actually used one, then you'll find the introductions to these sections essential reading. They tell you why you would want such software at all, and what are the vital features that you ought to be looking for.

Increasingly the boundaries between the package types are becoming fuzzy. If you think you want a database to hold your address list, you probably really want a word processor with a mail merger utility. If you think you want a spreadsheet to analyse your business costs, you may find a programmable database more useful. Read the descriptions below to see which suits you best... And have fun window-shopping...



this value is automatically updated if you make any changes in the other cells

So how do you choose between the various spreadsheets? One difference is sheet size, i.e. the number of cells you are allowed to work with. You'll need a few hundred for home use, and 1000 or more for business use. Another area is the range of formulae that you can use - all spreadsheets allow simple column and row totalling, but with some you can get complex statistical analyses too. As with all software, think very carefully what you will need before choosing.

SPREADSHEETS

If a database replaces an address book, then a spreadsheet replaces the back of an old envelope. It is really an electronic piece of paper which allows you to jot down numbers, juggle them around and analyse the cost benefits of a situation. Vital for business, spreadsheets can be useful to home users too: if you want a bank loan you will find that showing your bank manager a spreadsheet printout of your living expenses answers a lot of questions!

A typical spreadsheet has a grid of rows and columns. This grid forms a screenful of *cells* identified by their column and row numbers, e.g. A3, K36 etc. Each cell can contain a simple number, some text to make the page easier to read, or a *formula* telling the spreadsheet to work out a number from elsewhere. The power of spreadsheets is in this last category, formulae. You can make a cell's value depend on the value of cells above it, or to the left of it, and then

SCRATCHPAD PLUS

Caxton Software

If you want a traditional spreadsheet, ScratchPad Plus has most of the features you could want and more. Using "Virtual memory" means you can have a huge data area, and the screen can be divided into windows to view different parts at the same time. Many of the commands bear a remarkable similarity to the big business spreadsheet Lotus 1-2-3.

PLUSES • MINUSES

- + Virtual memory means you can have large spreadsheets
- + Multiple windows mean you can see all the parts you want at once
- + Good control over formatting
- + Vast range of calculations possible

- Documentation sorely needs an index
- Screen prompts are cryptic: you need the manual to hand
- No provision for automatic execution from files

MULTIPLAN
MicroSoft/NewStar

A well established package with all the features you would expect of a reasonable spreadsheet - it just lacks that something extra that recommends some of the newer ones. No support for command reading from files, or for "virtual memory". Adequate, but there are better for the money. And the manual can kill at twenty paces!

PLUSES • MINUSES

- + Functions easily entered by menu selection
- + Full range of features and functions
- + On-screen help text is available as you go
- + Sheets can be interlinked and data transferred between them
- You need a computer science degree to understand the manual
- No support for automatic execution
- Workspace is limited by CP/M memory space
- Printer output a bit cumbersome

THE CRACKER
Software Technology/Newstar

A spreadsheet designed with advanced calculating power firmly in mind including statistical functions. The screen layout is totally defined by the user, and cell value calculations can almost be full programs, e.g. DO... WHILE. It might prove too complex if all you want is simple spreadsheet operations. The screen messages are very helpful though.

PLUSES • MINUSES

- + Can cope with very complex formulae
- + Flexible screen format defined by the user
- + On-screen prompts are very clear
- + Documentation is big with plenty of examples and a good reference section
- + Graphs/charts can be automatically produced
- You've got to do a lot of work just to get started
- Very complex for quick, simple applications
- Needs some programming skills to get the most out of it
- Spreadsheet space is on the small side (17K) although memory is used efficiently

POCKET CALCSTAR
Davis Rubin Associates

A fairly traditional spreadsheet but with a few surprising features. It's not particularly large or fast, but is attractively priced and has all the basic functions. Can form part of an integrated system with the other Pocket products. A safe buy for the first-time user, and the documentation is up to the usual high MicroPro standards.

PLUSES • MINUSES

- + Good range of mathematical calculation functions.
- + Good documentation - sections for beginners and reference
- + You can preset a course of cells to visit, for form filling
- + Can be integrated with other Pocket products, eg ReportStar
- Screen size is very small - at most 15 spreadsheet rows, and normally only 10
- No auto auto-recalculate facility
- It's not very fast
- You can't type heading text etc. over adjacent columns

PLANNERCALC
Comshare/NewStar

PlannerCalc does for spreadsheets what Cobol does for programming languages. It is verbose and inflexible to use, but this does make you think very carefully about your application before entering data. Commands are all entered by pseudo-English phrases, rather than terse abbreviations. All work is done on a command line, not by moving the cursor around the screen.

PLUSES • MINUSES

- + English-style commands are understandable by non-experts
- + On-screen help available at any point
- + Documentation is fairly well indexed
- Verbose commands are awkward to type in
- Editing and inserting data is restricted
- Grouping cells into ranges for copying etc. is difficult
- Control of sheet printout is limited

MASTERPLANNER
Comshare/NewStar

MasterPlanner is essentially a souped up version of PlannerCalc. For double the money, what you get is a slicker manual, better formatting options, a bigger workspace and the same basic inflexibility. Files from PlannerCalc can be used with MasterPlanner.

PLUSES • MINUSES

- + Same pluses as PlannerCalc
- + Spreadsheet stored in virtual memory, i.e. can be as big as your disc
- + Can read files from PlannerCalc
- Same minuses as PlannerCalc
- Apart from size and speed, no real extra power over PlannerCalc

EDUCATIONAL

TYPING TUTOR
Computer One

A superior typing tutor which makes very good use of the PCW screen and graphics facilities. Traditional

PCWs

typing exercises starting from basics are covered in full, and if they get too boring then there is an addictive "Hangman" game. Recommended.

PLUSES • MINUSES

- + Good use of graphics to make typing interesting
- + All the traditional typing exercises covered fully
- + All instructions appear on the screen as you go
- + Robust user interface makes it easy to use
- + Addictive "Hangman" game gives fruitful light relief
- No way of cutting longwinded text when you get used to it.

IANKEY CRASH COURSE

lansyst

A fairly traditional typing tutor, taking you through basic keyboard exercises. There's a lot of explanatory text, which gets in the way second time around.

Definitely competent, but a bit boring.

- + Mostly avoids boring letter drills
- + Very full on-screen information guides you along
- + "Fast" option cuts out some text if gets repetitive
- Unimaginative use of graphics, compared to Computer One's tutor
- It doesn't always ensure that the cursor is properly aligned with the exercise text

IANKEY TWO FINGERS TO TOUCH TYPING COURSE

lansyst

A useful typing tutor in that it specifically caters for people who already can get by on keyboards with two fingers. You are gradually introduced to touch typing, so your speed doesn't drop while you learn. Fills a necessary slot in the Typing Tutor market.

PLUSES • MINUSES

- + Suitable for improving two-finger typists without much drop in speed
- + Full on-screen instructions
- + Exercise text is interesting paragraphs, not letter drills
- Explanation text is annoyingly verbose in some lessons
- It doesn't always ensure that the cursor is properly aligned with the exercise text

TOUCH 'N' GO

Caxton Software

A very traditional typing tutor, with no attempt at interesting screen presentation. Letter drills are rigorously pursued, making for good typing practice if you can stick to it. Also has number keypad tuition for data entry operations.

PLUSES • MINUSES

- + Methodical letter drills enforce good practice
- + Provides number keypad tuition as well as letters
- + Instruction screens are optional, so can be cut out for speed
- Gives a flattering error rate, since it allows you unlimited use of the delete key.

- Doesn't tell you how to make the number keypad actually work on the PCW!
- Boring use of the screen. You need to really want to learn

BETTER SPELLING

School Software Ltd

This is a spelling course aimed at the 8 to adult age group. It consists of a series of well organised, short lessons each dealing with one topic, like plurals or which version of there/their/they're to use in a sentence. The use of the PCW screen is rather unimaginative, and doesn't hold your attention.

PLUSES • MINUSES

- + Well thought out lessons to emphasise particular points
- + Teaches words in a sentence context as well as in isolation
- + Lessons can be picked in any order from a menu
- + Seems to be proof against mischievous key pressing
- Boring use of the screen doesn't grab interest
- No instructions come as to how to use the program

GAMES

BATMAN

Ocean Software

If you think the PCW screen is for text only, this game will make your jaw drop. Its animated 3D graphics are remarkable. The game too is surprisingly sophisticated. Despite the title, there's no fighting involved, just a good deal of brainwork and agile key control. While exploring the vast underground complex you have to negotiate a wide range of hazards and solve brain-twisting puzzles, often to do with manipulating obstacles and turning them to your advantage. Superb entertainment - there's even a Batman 'tune'!

PLUSES • MINUSES

- + State-of-the-art 3D graphics
- + You have the ability to push objects around a location offering scope for ingenious puzzles.
- + Conveyor belts, electrified floors and various creatures pose a severe challenge
- + There's enormous variety and depth to the game. You won't get bored. . .
- . . .until you've finally solved it

HITCH-HIKER'S GUIDE TO THE GALAXY

Infocom/Softsel

In many people's view the best adventure program ever written. Based on the original book/radio show/TV program, it puts you in the same wacky situations forcing you to solve problems of mind-boggling improbability. The program is text only, but sophisticated enough to convince you that Douglas Adams himself is hiding inside your Amstrad.

PLUSES • MINUSES

- + Guaranteed more laughs than any other program
- + Solving some of the problems will have you gasping with glee
- + Responses to your commands are almost always intelligent - and witty
- + A very large program - many hours of challenge
- + Better entertainment than the original radio show
- Liable to keep you from doing other things!

INFOCOM GAMES

Infocom/Softsel

Virtually the whole range of Infocom's famous text adventures are now available for the PCWs. From the original Zork series, now several years old, through to modern titles such as Spellbreaker, the programs all offer sophisticated, challenging entertainment of the highest order. If you're new to adventuring you should start with an 'introductory level' program such as Wishbringer. Old hands can tackle an 'expert' level title such as Starcross, Suspended or Spellbreaker.

PLUSES • MINUSES

- + Renowned for their sophistication in handling and responding to your typed commands
- + Superb text descriptions give each game special atmosphere
- + Great satisfaction to be had in overcoming numerous problems and dead ends
- + Lack of graphics means you can fool a casual observer into thinking you're word-processing!
- They're not cheap

INVADERS

Gemini

Are you an ageing hippy who toyed briefly with the original Space Invaders when video games first appeared (and then gave up playing because you were no good)? Then this is for you, it's pure nostalgia - simple space invaders. Go on, zap those database blues away.

PLUSES • MINUSES

- + Simple enough even for managers to play
- + Oozes nostalgia for all those 20¢'s you spent in the pub many years ago
- The sound on the PCW really doesn't make any impact
- The screen movements are not very fluid - firing on the move is erratic
- Games have moved on a long way since it was designed
- Overpriced

GRAHAM GOOCH'S TEST CRICKET

Audiogenic

This is a fully animated game allowing either 1 or 2 players to choose teams and compete in limited over or test cricket. You can control where the ball is bowled, and when the batsman strikes it. A good version, if you are a cricket fan.

PLUSES • MINUSES

- + Surprisingly good animated graphics (in cricket pitch green, of course)
- + Comes with up-to-date England and Australia squads preset, or pick your own sides
- + You can control the bowler's pace and batsman's timing
- The 1-player game palls after a while - strictly for cricket fans
- The PCW's sound doesn't generate any atmosphere

COLOSSUS CHESS 4.0

CDS Software

Tests appear to confirm this program's claim to be the strongest of the chess titles in actual play, although only by a small margin. It actually uses the time you're thinking to continue its planning! The program appears to have all conceivable features including such things as simulating "blindfold" games.

PLUSES • MINUSES

- + Probably the most powerful in play
- + Includes openings library of 3000 moves
- + Numerous features including proper tournament mode and "equality" mode in which the program matches your time
- + Choice of algebraic or cursor key move entry
- + Comes with file of 35 "pre-recorded" games and 19 chess problems
- Forget the 3D display - the 2D option is much clearer

CYRUS II CHESS

Amsoft

This program's outstanding feature is its highly-detailed 3D display - it's stunning. So is the super-smooth (although slow) movement of the pieces. It has numerous other features, though not quite as many as Colossus. In our tests Colossus seemed to play better, but Cyrus II is still likely to beat you.

PLUSES • MINUSES

- + Gorgeous 3D view of board backed up by 2D option
- + Very strong play
- + Numerous frills and features such as the option of taking back a move
- + Easy to use cursor key move entry
- Usually outplayed by Colossus
- No option for algebraic move entry

3D CLOCK CHESS

CP Software

The title refers to the fact that the program's 3D display includes a view of a chess clock complete with buttons and moving hands. A bit of a gimmick, really - both the other programs also keep a check of the time each player takes and includes various time control options. The 3D display is prettier than Colossus.

PLUS • MINUSES

- + Tough to beat, even at low levels

- + Attractive 3D display
- + Features include the ability to set any time limit per move for the computer
- Appears not quite as strong in play as Colossus
- Some features missing -eg. no option to take back a move after a blunder!
- Move entry is only by algebraic coordinates (e.g. e2e4)

BRIDGE PLAYER III

CP Software

Surprisingly, perhaps, good bridge programs appear to be much harder to create than good chess programs. Most suffer from erratic bidding, poor card play and numerous quirks. Bridge Player III can't entirely escape these criticisms, but as bridge programs on micros go, it's good. The human player plays South, with the computer running the other three hands. It claims not to cheat.

PLUSES • MINUSES

- + You can play bridge without first finding three like-minded people
- + Program offers reasonably strong card-play
- + You can specify the strength of your hand for bidding practice
- + The computer keeps the score - no messy sheets of paper
- Bidding with the computer as both partner and opponent can be quirky and frustrating
- Overall strength of play is well below that of an average player

S.A.S. RAID

CRL

An atrocious game with nothing to recommend it. You're supposed to recover some plans from a castle by moving around a playing area represented by useless non-animated graphics and totally barren descriptions. Falls hopelessly between two feeble stools.

- Completely lacks atmosphere
- And challenge.

FAIRLIGHT

The Edge

Another fine 3D graphic adventure with similar screen display to Batman. You must explore a castle prison in search of a book which will allow you to escape. Numerous enemies (helmeted guards, trolls, wraiths, etc) must be avoided and puzzles solved by finding the right objects and using them in the right way.

PLUSES • MINUSES

- + Clear, detailed 3D graphics (but not quite up to Batman standards).
- + Good atmosphere generated by graphics and instructions.
- + Large playing area to explore and map.
- + Wide range of puzzles and objects to solve them.
- Action slows down considerably with more than

- one moving character on screen.
- May be hard to get into at first

BLACKSTAR

CRL

A traditional text adventure with large playing area. Your aim is to enter and explore the mysterious Castle Blackstar and its vast underlying caverns in search of a 'power orb'.

- + Large number and variety of locations.
- + Pleasing traditional fantasy scenario - gleaming swords, strange statues, etc.
- + Plenty of objects to discover, problems to solve.
- Program's text handling is not particularly sophisticated.
- Unhelpful responses to your commands can become frustrating.

ACCOUNTS

SANDPIPER ACCOUNTS

Sandpiper Software

This package is described as a 'simplified' integrated system and is aimed at inexperienced users. It offers a large number of features at a competitive price, but suffers from some drawbacks, in particular the limited audit and enquiry facilities.

PLUSES • MINUSES

- + Comes ready installed to run from the M drive.
- + Screen based instructions make it relatively easy to use
- + Reasonably large file capacity
- + Customer telephone support is available
- Analysis of sales and purchases is slow.
- The documentation is confusing.

SAGESOFT ACCOUNTS

Sagesoft

An integrated accounts package consisting of purchase, sales and nominal ledgers. For extra you can buy Accounts Plus which also has invoicing and stock control. The package is aimed at small companies with the emphasis on ease of setting up. But there are a number of limitations - in particular the package cannot cope too easily with rapidly increasing numbers of customers and suppliers.

PLUSES • MINUSES

- + Clean, tidy and logical screen layouts and menus.
- + Easy to set up and use with excellent documentation.
- + Good audit trails and tax reports
- + Can produce formatted trial balances.
- Restrictive account numbering system
- Small batch sizes
- Does not cater for settlement discounts

- Won't print remittance advice slips.

MONEY MANAGER

Connect Systems Ltd

A personal accounts package, which might at a pinch serve a fledgeling small business. It acts as a daily diary, over 12 months, recording all incomings and outgoing between up to 9 accounts. Transactions can be given codes to group like ones together, and simple reports can be printed.

PLUSES • MINUSES

- + Fairly simple menu and screen entry of data
- + Standing orders can be added to each month
- + Detailed and summary statements can be produced.
- The 24-page manual does not properly explain the package's features.
- The statement formats is not very flexible.
- It is written in BASIC, and it's slow at statement preparation.
- Transfers between accounts are not cross-referenced.

CAMSOFT PSIL

Cambrian Software

Consists of five integrated packages: Sales, purchase and nominal ledgers, invoicing and stock control. In terms of sophistication it falls somewhere between the SageSoft package and the larger systems from MAP and Compact. But it's easier to run than the larger packages since all the software can be squeezed into the M drive. Good package for a small company.

PLUSES • MINUSES

- + Comes installed for PCWs and can be run efficiently by 8256 or 8512.
- + No need for pre-printed stationery.
- + Excellent sort and search facilities.
- + Invoices shown on screen as you create them.
- Constant need to input full five-digit account codes.
- No final accounts reports available on nominal ledger.
- No facility to run the ledgers in different accounting periods.
- A couple of minor, but annoying, bugs.

M.A.P. ACCOUNTS

Map Computer Systems

This is a very powerful package moved onto the PCW at a fraction of its cost on larger micros. The size makes it a little cumbersome to use, but apart from that there are very few significant problems. The integrated suite includes the same five modules as Camsoft, but they are supplied on four sides of disc, making it effectively impossible for the software to be run as an integrated system on an unexpanded 8256.

PLUSES • MINUSES

- + A very comprehensive and professional package
- + Very good audit trails.
- + It's possible to run the sales and purchase ledgers over a different time period from the nominal

- + Facility for handling prepayments and accruals.
- + Able to print full management accounts.
- The size of the programs means lots of disc swapping.
- All normal responses need to be in upper case.

COMPACT ACCOUNTS

Compact Software Ltd

Another very large integrated package supplied on several discs and consisting of sales, purchase and nominal ledger together with invoicing. The package is available on much larger micros, and since the format in which data is produced is the same as on PCWs, the system is particularly suitable for users planning to upgrade their hardware at a later date. The programs' anti-piracy system means you have to use the original discs in the A drive. This means the system is not very suitable for use on an 8256.

PLUSES • MINUSES

- + Audit trails are an auditor's dream.
- + Includes a facility to allow data to be used in WordStar, Multiplan or SuperCalc 2.
- + Superb prepayment facility
- + Can run a number of companies separately.
- + Easily transported to bigger computers.
- Lots of disc swapping necessary.
- Can be slow to use - it runs in Mallard Basic.
- A couple of mildly annoying quirks in cash allocation routine and account code system.

GRAPHICS

DR GRAPH

Digital Research

A rather specialised package, specifically for presenting complex data in graph form. Can produce line graphs, bar charts, piecharts, scatter plots, text, and compositions of any mixture of these. Very flexible, and easily operated by menus, but really needs a graph plotter to do it justice.

PLUSES • MINUSES

- + Can read data from certain spreadsheet packages (e.g. Supercalc)
- + Extensive annotation and text placing is possible
- + Good, professional manual (although no mention of Amstrad specifics)
- + Supports a colour graph plotter as an output device
- You need CP/M expertise to get it installed and going
- There is no way of joining points by a smoothed curve

DR DRAW

Digital Research

This is a drawing utility, which allows you to

compose designs from circles, polygons, lines and a wide variety of shadings and styles of text. It's very cumbersome to use unless you also have a light pen or a mouse, and overall not very friendly. Not recommended unless you're ready for some hard work.

PLUSES • MINUSES

- + When pushed, it can produce very neat diagrams, even on the standard PCW printer
- + Good, professional manual (although no mention of Amstrad specifics)
- You need CP/M expertise to get installed and going
- Painfully slow screen handling
- Difficult to use by keyboard alone - you must buy a lightpen

MICRODRAFT

Timatic Systems Ltd

This package is essentially an electronic drafting board. Lines, circles, polygons, text and so on can be accurately placed on a page, and then scaled and rotated en masse. Microdraft is not an art package, so there are no freehand sketching facilities. Overall an excellent package, comprehensively designed and easy to use.

PLUS • MINUSES

- + Elements can be positioned very accurately (better than the PCW screen resolution)
- + Discrete elements can be grouped into blocks and manipulated
- + Well written and comprehensive manual (except it refers to the CPC6128 keyboard)
- + "Zoom" feature allows you to work on fine detail
- + Supports output on proper graphic plotters
- No "undo" facility
- Hard copy output is very slow

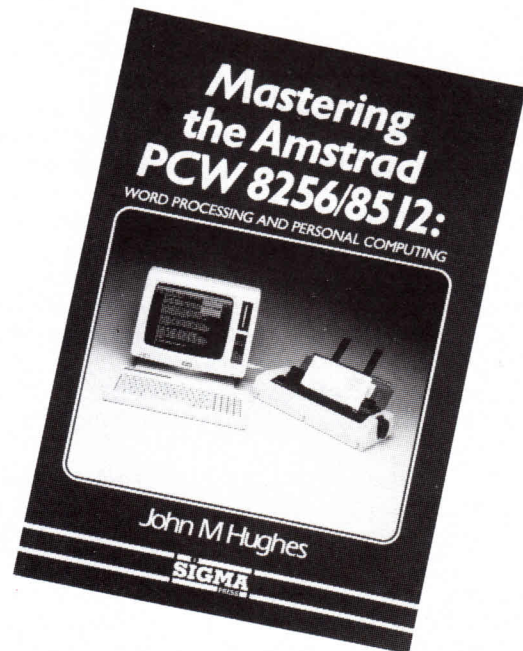
LIGHT PEN & GRAPHICS PACKAGE

The Electric Studio

Ostensibly you are buying a piece of hardware - a light pen that can be used with many PCW graphics programs, like DR Draw. In practice, its main use is with the software that comes with it, a very good picture drawing package. You can freehand draw, get airbrush effects, create polygons and circles, and move blocks of pixels. Great fun.

PLUSES • MINUSES

- + Light pen hardware is a simple module that slots onto the back of the PCW
- + Menu selections are easy to understand
- + Full range of functions for area filling, shading and spraying
- + Blocks of pixels can be moved and copied
- You would need to know your way around CP/M to use the lightpen itself with other graphics programs
- Items on the screen are purely pixels, not distinct elements like in DR Draw or Microdraft
- No positioning of items by numeric co-ordinates for accuracy



Mastering the Amstrad PCW 8256/8512

Word Processing and Personal Computing
by John M. Hughes (254 pages)

The PCW is a powerful machine, with far more potential than is apparent at first glance of the user manual. This book gives readers a thorough grounding in word processing techniques and then goes on to show how the PCW can revolutionise even the smallest office and bring word processing into the home for less than the cost of a mid-range typewriter.

You'll find advice on care and use of discettes, security and other fundamentals; a tutorial on word processing illustrating just about every command with quick reference sections; using SuperCalc2 spreadsheet - a powerful system for numerical calculations and financial planning; using the recently announced database packages to store and retrieve information - eg. for stock control or mailing lists; a guide to other packages including payroll and accounts systems; using CP/M Plus - the operating system provided with the PCW; installation of CP/M packages, including NewWord, the new WordStar style word processing package, is also covered.

Order your copy now from The Amstrad User,
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MASTERMIND

A Game of skilful deduction developed for the PCW's

by Arnold Goldman

A similar program was presented in *The Amstrad User* quite some time ago for CPC users. The editor said that some of the newer readers, using the PCW computers, may be interested in a program that runs without great amounts of modification to remove the CPC graphics statements. So here it is.

The game is a screen based version of the board game using different combinations of 4 coloured pegs. In this version the player has the choice of a 3, 4, or 6 digit number using digits from 1 to 5, 1 to 6, or 1 to 9 respectively. I have written the program to allow more guesses for the harder levels of game, with the remarks on your success matched to the level of game.

For the benefit of those who would like to learn something from the programming aspect perhaps I should explain the various actions of the program.

The program makes much use of subscripted variables. These are described on pages 98 and 99 of the PCW8256 manual - book 2, I shall try to explain the use made of them in this program. Each time the player makes a guess the number is stored in R\$ initially at line 270, and after checking for validity, it is transferred to G\$(GN) in line 340, G\$ is the guess you made, and GN is the guess

number. In this way the computer stores all your guesses in G\$(1), G\$(2), G\$(3), etc. These are called an array and are recalled in lines 500 to 520 when a summary is requested. Unless told otherwise, the computer will allow up to 10 items in the array. If more are required, a DIMENSION statement is required, as I have included at line 220. This shows that the dimension will depend upon the level chosen and will equal MG, the maximum guesses allowed.

Now let us look at the program from the beginning. In order to clear the screen, the first line goes to a sub-routine at line 1030. There is no simple screen clear command for the PCW8256 so a simple sub-routine that prints 40 blank lines is included from line 1030 to 1060. I could have used the simple sub-routine shown on page 32 of the Amstrad Basic manual, but this alternative way is not as fast and suits this program better. At least I think so.

Lines 20 to 110 are the general introduction lines where you choose the level of game to be played by entering your choice into L\$.

Line 120 clears the screen again via the sub-routine at line 1030.

Lines 130 to 180 convert the input L\$ to upper case and directs the program to the next stage depending on the level chosen, or returns to the introduction if an incorrect entry has been made for L\$.

Lines 190 to 220 set the values for

the highest digit DIG, number of digits PO, max. number of guesses MG, and the appropriate number of dashes in D\$. Three variables need to be dimensioned as they exceed the default value of 10, This is done in line 220.

Lines 230 to 250 branch off to 3 sub-routines. The first, from 800 to 900, provides the second part of the introduction, using the appropriate values of PO and DIG chosen in lines 190 to 210. A random number is then requested for use in the RANDOMIZE command which resets the random number generator. The original program used the simple RND command which tends to repeat the same random sequence each time. In this way the player could cheat by using the same random number input as on a previous occasion and impress the casual observer. The next sub-routine, from 1070 to 1150, is an attempt to introduce some graphic effect without much effort. It demonstrates the use of variables within the LEFT\$ and TAB commands. The third of the sub-routines, from 360 to 420, uses the random number to select a number of sufficient digits and stores it in the variable C\$.

From line 260 to 350 the program loops round and round, with excursions off to the sub-routine at line 580, until you have guessed correctly or run out of guesses. The part that compares your guess R\$ with the computer choice C\$ is the sub-routine from 580 to 790. It includes some intricate

manipulations, and if anyone has a better way of doing it I will not be at all surprised. However, it does work and ends up with a display of your guess and score at line 780 on each circuit of the loop.

The rest of the program should now be obvious, even if it is not laid out in as sequential an order as would happen if I had prepared it using an ideas processor such as Brainstorm, but it works. The

original program in its basic form is far messier and appears in at least 3 books for use on Commodore, Sorcerer, and Apple computers at my local library.

Well, all that is required now is a bit of careful typing and you can have fun pitting your powers of logical deduction against the computer. Needless to say, you should save the program, even if incomplete, when a break is

required. The PCW8256 updates the listing when you save the finished program later on. Also, for those who are starting right from the beginning, I should point out that before you start typing in any of the program you should put your CP/M disc in and when the A> appears type BASIC and press the RETURN key. This is all on page 5 of your instruction book.

```

10 GOSUB 1030
20 PRINT TAB(10);"*****"
* MASTERMIND *****
***** "
30 PRINT:PRINT
40 PRINT" A game where you have to guess
  what number the computer has chosen."
50 PRINT" It is very much like the Maste
  rmind game using pegs in a perforated bo
  ard."
60 PRINT" The game may be played at 3 le
  vels:-"
70 PRINT"      Easy, using 3 digits from
  1 to 5."
80 PRINT"      Intermediate, using 4 digi
  ts from 1 to 6."
90 PRINT"      Mastermind, using 6 digits
  from 1 to 9."
100 PRINT:PRINT "Choose your level - E,
  I, or M"
110 INPUT L$
120 GOSUB 1030
130 L$=UPPER$(L$)
140 IF L$="E" GOTO 190
150 IF L$="I" GOTO 200
160 IF L$="M" GOTO 210
170 PRINT "INVALID CHOICE!! - E, I or M
  are acceptable."
180 GOTO 60
190 DIG = 5:PO = 3: MG = 8:D$ = " --- ";
  GOTO 220
200 DIG = 6:PO = 4: MG = 12:D$ = " ----
  ": GOTO 220
210 DIG = 9:PO = 6: MG = 16:D$ = " -----
  - ": GOTO 220
220 DIM BL[MG],WH[MG],G$[MG]
230 GOSUB 800
240 GOSUB 1070
250 GOSUB 360
260 PRINT:PRINT "Your guess No."; GN; "(
  or 'S' or 'Q')";D$;
270 INPUT R$
280 IF LEFT$(R$,1)="S" THEN 440
290 IF LEFT$(R$,1)="s" THEN 440
300 IF LEFT$(R$,1)="Q" THEN 550
310 IF LEFT$(R$,1)="q" THEN 550
320 GOSUB 580
330 IF BL(GN) =PO THEN 910
340 G$(GN) = R$: GN = GN+1: IF GN > MG T

```

```

HEN 1000
350 GOTO 260
360 GN = 1: C$ = ""
370 FOR J=1 TO PO: R = INT(DIG*RND(1)) +
  1
380 C$ = C$ + RIGHT$(STR$(R),1)
390 NEXT J
400 PRINT:PRINT " the secret code has be
  en selected. "
410 PRINT:PRINT:PRINT "Enter 'S' for a s
  ummary or 'Q' to quit at any time"
420 RETURN
430 GOSUB 1030
440 IF GN>1 THEN 470
450 PRINT:PRINT "You can't have a SUMMAR
  Y until you have made some guesses! "
460 GOTO 260
470 PRINT:PRINT TAB(20); " * * * SUMMARY
  * * * "
480 PRINT:PRINT "Guess No.", "Your guess
  ", "Black", "White"
490 PRINT "-----", "-----", "----
  --", "-----"
500 FOR J=1 TO GN-1
510 PRINT J, G$(J),BL(J),WH(J)
520 NEXT J
530 GOTO 260
540 PRINT
550 PRINT:PRINT "So you've had enough ha
  ve you? "
560 PRINT " Well the secret code was ...
  ..";C$
570 GOTO 970
580 IF LEN(R$) = PO THEN 600
590 PRINT:PRINT "ILLEGAL ! Try again !
  ": GOTO 260
600 FOR J = 1 TO PO: R=VAL(MID$(R$,J,1))
610 IF R<1 THEN 590
620 IF R>DIG THEN 590
630 NEXT J
640 B=0: W=0: FOR J=1 TO P()
650 G(J) = VAL(MID$(R$,J,1))
660 C(J) = VAL(MID$(C$,J,1))
670 IF C(J)=G(J) THEN B = B+1: G(J) =0:
  C(J) = 0
680 NEXT J
690 FOR J=1 TO PO: IF C(J) =0 THEN 760
700 H =0
710 FOR K=1 TO PO: IF C(K) =0 THEN 740

```



```

720 IF C(J) <>G(K) THEN 740
730 H = 1: G(K) = 0: C(J) = 0
740 NEXT K
750 W = W + H
760 NEXT J
770 BL(GN) = B: WH(GN) = W
780 PRINT:PRINT "Guess No."; GN; " Blac
k ="; B," White ="; W
790 RETURN
800 PRINT TAB(20); "* * * MASTERMIND *
* *"
810 PRINT:PRINT:PRINT "The object of the
game is to deduce a";PO;"position"
820 PRINT" code number, made up of the d
igits 1 to ";DIG;" only."
830 PRINT:PRINT
840 PRINT "The computer will indicate th
e number of digits correctly guessed"
850 PRINT " at the right position, and
label that value BLACK."
860 PRINT:PRINT "WHITE indicates that a
digit is correct, but in the wrong posit
ion."
870 PRINT:PRINT
880 INPUT "Input a random value, please"
;random
890 RANDOMIZE random
900 RETURN
910 PRINT:PRINT "That's it -- "; C$; "!!
"
920 PRINT:PRINT "you got it in ";GN; "gu
esses....";
930 IF GN>(MG*3/4) THEN PRINT "pretty sl
ow!":GOTO 970
940 IF GN>(MG/2) THEN PRINT "not bad!":
GOTO 970
950 IF GN>(MG/4) THEN PRINT "pretty good
!": GOTO 970
960 PRINT "Amazing!!!"
970 PRINT:PRINT "For another game (press
'RETURN') or stop (press 'STOP')
980 INPUT replay
990 GOTO 250
1000 PRINT:PRINT:PRINT "Sorry, that's yo
ur limit of ";MG;"guesses."
1010 PRINT:PRINT "The secret code was ";
C$; ". "
1020 GOTO 970
1030 FOR I = 1 TO 40
1040 PRINT
1050 NEXT I
1060 RETURN
1070 FOR I = 1 TO 60
1080 T = 15 + INT(I/2)
1090 MD = 61-I
1100 M$ = "MASTERMINDMASTERMINDMASTERMIN
DMASTERMINDMASTERMINDMASTERMIND"
1110 MD$ = LEFT$(M$,MD)
1120 PRINT TAB(T);MD$
1130 NEXT I
1140 GOSUB 1030
1150 RETURN

```

**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!)
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The AMSTRAD User.**

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*To avoid "Typnig Errors" your programs
should be sent on disc (these will be returned),
along with the relevant documentation, to:
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Glen Waverley, Vic 3150*

SANDPIPER FILE MANAGER

An overview

Sandpiper Software who are recognised in England as being one of the leading software innovators, has now produced a Database program that will change the way small businesses and computer users think about storing and retrieving information.

Previously, you either had to learn a programming language, a database language or hire a consultant to write that special database for you. That has now all changed!

After spending considerable time and effort on researching the special needs of small business, Sandpiper commissioned a team of dedicated professional programmers to design a File Management System that would be so simple to use that all small business persons would want to have it.

With the impending release of the PC1512 of Amstrad, more team members were brought in so the program would be up and running on the release day. It is now a fact.

What will this program do for you? Imagine a Filing Clerk pulling files, making calculations to the same file or another file, updating the respective files and then producing reports all automatic-ally done with a stroke of a key. That's Sandpiper File Manager - fully interactive between files and the operator, multi file capability and programmable to do what you want. Simply tell Sandpiper File Manager what you require no matter how complex.

Just to give you some idea how easy SFM really is, imagine this:-

Three Easy Steps.

Step 1. Draw a box. You simply tell the system where you want the box and Sandpiper will draw it.

Step 2. Lay out the screen. Write what you want — where you want it — with facilities for underlining and highlighting displays.

Step 3. Define the various fields by

telling the system what type of information is required.

But that's only the beginning!

With the Sandpiper File Manager you can create a complex, interactive, multi-file system. This is achieved using the easy to understand menu driven application generator and enables the first time user to release the built-in power of the File Management System. Some of the features included are:-

Screen Formatting:

Enables the user to generate attractive and functional screen formats without prior knowledge of Databases and/or computer systems.

Automatic File Generation:

The user does not have to define the field or file configurations (layout and sizes) as this is done automatically.

Flow Control:

Different from most databases the Sandpiper Database System allows the user to define the conditions under which the various functions are to take place thus allowing the simple creation of menus.

High Capacity:

As the system fully utilizes the features of the computer, the capacity of the disc is totally available for Database records.

Data Compaction:

The user can take advantage of increased disc capacity as this function is invoked automatically on all numeric data.

Sandpiper File Manager has so many possible applications. There are few low cost systems that offer anything more than simple data storage and retrieval facilities. Sandpiper has changed all this by producing a programmable file management system that offers more possible applications than ever before. Just for the experts here are the

technical specifications:-

Max. no. of chars per record: 4000+

Max. no. of fields per record: 250+

Max. no. of records per file: 32000

Max. field length: 250+

Look-up tables: Up to 32000 records with 250 plus cross references in each.

Data protection: Contrary to most systems Sandpiper File Manager utilizes an optional data encryption method for the most effective protection of sensitive information.

Searching: The system will search on any number of fields within a title from a single field up to the total number of fields within that file.

Calculations: Up to 100 calculations may be made in each processed file. Any number of processed files may be used together. These calculations include add, subtract, multiply, divide and many more complex functions such as conversion, logical and comparative functions.

Special Function fields: Facilities exist within File Manager for special handling of dates such that these may be entered in two ways and presented in the opposite format. The power of this feature also enables the automatic calculation of the weekday and for date differences to be calculated.

Links with other software: The system provides full source compatibility with most proprietary software. This means that information held in SFM may be passed to other systems with ease.

Menus: As the menus on the system are simply screen formats entered by the user, these may be created however the user wishes — they are not limited by the system.

Machine compatibility: Sandpiper File Manager is available on most operating systems including CP/M, PC DOS, MS DOS, Amstrad PCW's, all IBM compatibles and Atari.

Portability: Applications created on one machine may be run on another with no changes.

Quite simply . . . Sandpiper File Manager is probably the only database system you'll ever need. All Sandpiper products including the Sandpiper Accounts are available from AMSNET International Pty. Ltd. of 49 Riversdale Road, Oxenford 4210 or by phone on 075 531734.

For details of an "Applications Contest" see next page.

PC PROMISE

An in depth look at this inexpensive data management package

About 18 months ago, many people in the software industry, seeing the problems people had with trying to use the same piece of information in different ways, were prophesying the rapid decline of packages aimed at particular kinds of data, and the rapid rise of the all-conquering integrated package.

Certainly the rate of innovation in some parts of the business software market did slow down in 1985, and some integrated packages have achieved a modicum of popularity - but among the best-sellers, specialist packages still outnumber the integrated systems by five to one.

As users have continued to buy the special-purpose packages, so suppliers have come to see that there are still substantial opportunities in those markets. At any rate, there is undoubtedly another wave of new and enhanced products in these more specialised areas.

PC Promise is a data management system from a small British company, modestly presented, yet with a range of features far beyond what business users usually get at such a price. Like Paradox, PC Promise is presently only available on the IBM PC and 100 per cent compatibles, and with its extensive (though not obligatory) use

of colour, it seems likely to present some problems in conversion to other systems.

PC Promise is designed to make the best possible use of disc space, and also to allow changes to the record structure without the need to copy and reorganise the data itself. To this end, it stores information in variable length records, in which each field takes up just the amount of space needed - most packages allow as much space for each field as the largest value it may contain. Since the program itself takes up less than a floppy disc (another welcome change from the arsenal of floppies supplied with most systems), it is practicable to consider using PC Promise on a twin floppy disc machine (or even, if you have been lumbered with one, a single disc drive system).

The file-handling capabilities of PC Promise are powerful enough to satisfy most needs, allowing you to have information in 'flat file' format; in 'transactional' formats, in which one superior record spawns several below it in the hierarchy, and these in turn may spawn another level of records - up to 10 levels in all are allowed; and in a relational format in which separate files are linked by indexed fields common to each, again with the

ability to link up to 10 files in this way. All data entry and updating is accomplished through interactive screens, and the screen design is again both powerful and flexible. Selection and reporting facilities, while adequate, are less powerful, though enhancements are imminent. All in all, PC Promise is well worth a more detailed look.

CONSTRAINTS

PC Promise can store unusually large fields - up to 1800 characters - and appears to place no explicit limit on record lengths. Three basic data types - character, date and numeric - are provided, but within the numeric type, PC Promise distinguishes between fixed and real numbers and money fields (pounds and dollars!). Dates are displayed in the DD/MM/YY format; they can be included in calculations and selections, with the package correctly carrying out date arithmetic. Key length may be a limitation in some applications - a key may be no longer than 48 characters, although it is possible to include just the first or last word of a field as all or part of a key.

FILE CREATION & INDEXING

Setting up a file in PC Promise is inseparable from creating a screen format through which to view or change it. The procedure is to begin by 'painting' a screen containing both background information and the field specifications. Each field is shown by entering a sequence of underline characters, to indicate both its position and its length. If all your fields are character format, and do not need special checking of other attributes, all you need to do is to confirm the order of field entry, and specify the indexing needed.

SANDPIPER APPLICATIONS CONTEST

To show users just how easy Sandpiper File Manager is to use, AMSNET are sponsoring a contest to allow users of SFM to enter their application programs and win prizes of other software each month. At the end of each three months, one lucky person will receive a full refund of the \$275 cost of the program or more software to the same value. Also, all persons

may be asked to enter a contract with AMSNET to market their application in Australia, New Zealand and the U.K. Obviously these persons will receive royalties on the programs that are sold. For more information phone Neville Wright on 075 531734 between the hours of 10am and 4pm Monday to Friday.

For more detailed control over data entry, you invoke the field specification menu. This allows you to specify the data type, the order in which fields are to be entered, the data type of each field - whether it is to be entered from the keyboard, displayed from some other source, or invisible - formats such as decimal points and money symbols, initial default value, and annotation of negative and positive values - for example, you can ask that debits be marked with DR and credits with CR. Field values may be derived from others, using a range of calculations, and you can also access the system date and time. Data validation can also be specified, including a check that a value exists in a predefined table, or in another data file. The range of facilities is greater than that in many much more expensive packages.

PC Promise allows you to create as many indexes as you need; each is kept in a separate file, and indexes are kept up-to-date when records are altered. Each index may be a composite of up to 16 fields, but the total length may not exceed 48 characters. If all the fields in the index are numeric, each takes up four characters, thus allowing 12 numeric fields in a composite index; for indexes based on a mixture of data fields, the displayed field length is used to determine its contribution to the total index length.

DATA INPUT & UPDATING

Data input is at present entirely through the keyboard; you can set up quite complex systems where several files are added to or amended in one session. This is achieved by linking screens. You can display one record from one file on a screen; or use several linked screens for a single record; or display several records from one file on the same screen. You can also display records from more than one file on the same screen. Combining these facilities, you can, for example, show in the upper part of the screen the information about an adult, and in a 'window' on the lower part of the screen show several records from another file, each record

containing information about one of the adult's children. Another application of the same approach, illustrated in the screenshots here, displays invoice header information at the top of the screen, invoice totals at the bottom, and a window containing invoice lines - each line being one record from the 'invoice lines' file - in the middle.

Once these screen relationships are set up, you can then enter data into each file as appropriate. For example, in the adult/child example, you could have a field on the parent screen which asked if the adult has any children, and the link to the child file would then be implemented for those who have. This then allows entry and amendment of the dependent records.

When retrieving records for editing, you can use any index or preset selection sequence (for more on these, see 'Selection & Sorting'). PC Promise allows you to choose the desired index by scrolling through those available with a function key. Once the index is decided, you can enter a value for the indexed field(s), or browse through forwards or backwards from the current record.

Records may be deleted during this process. The freed space is not, however, recovered fully by the package at this stage - a side effect of the approach to storing variable length records easily.

To recover the space, you must run a utility from the 'housekeeping' section of PC Promise, which also includes the utility necessary for rebuilding the indexes when space recovery is complete.

At present, there are not batch processing facilities in PC Promise - you cannot, for example, increase the price of a group of products by 10 per cent other than by altering each record from the keyboard. A new version of the package including these features should be available by the time you read this.

SCREEN DISPLAY

The screen-painting method described under "File creation" can be used to set up a variety of screens for displaying records or groups of

records. Where you want to show records as a list, one per line, for example, you could design a screen in which the fields were displayed across a single line, and repeated as many times as would fit on the monitor display. Alternatively, you could use the 'print-to-screen' feature to display reports in the format described in the next section.

The screen-painting features can include instructions about colour of display, or, on monochrome screens, display attributes such as reverse video. You can also use a group of characters from the graphics character set to include boxes around parts of the screen display. These characters are entered through the function keys, and include a key to 'tidy up' the corners of boxes, to avoid the overlapping of characters which you usually get with vertical and horizontal line-drawing characters.

PRINTED REPORTS

Screens in PC Promise come in a variety of guises; these include a 'Print' specification. Apart from designating a screen Print, the design methods are identical to those for designing a screen that is to be used purely for display on the monitor. The advantage of this approach is, of course, that no new methods need to be learnt in order to produce reports. The drawback is that, at present, it's impossible to design reports that are more than 80 characters wide. Again, the new release of PC Promise, expected in late April, should have considerably enhanced reporting features, including the ability to set up wider reports.

When a Print layout is executed, PC Promise uses a slightly different method of deciding how many records to show. If the layout includes records from just one file, the package will print as many records on each page as it can, given the layout in use. (Where you need to print one record per page in this situation, one way is to include the printer's form-feed escape sequence at the end of the layout screen.) The page length can be specified through a utility, so you can, for example, produce labels by setting a very short page length.

Where a Print layout includes data from more than one file, PC Promise will print one record from the first file specified, then as many records as possible of the appropriate records from the related file. In the invoicing example, this would mean the header lines being printed at the top of the page, then as many invoice lines as would fit, followed by the summary lines at the bottom. The final effect is much as the data appears on the screen, except that the 'window' size is determined by PC Promise, taking into account the extent by which the paper length exceeds the 25 lines of your monitor.

SELECTION & SORTING

PC Promise allows you to specify file indexes when you create the file, and also to add indexes later. These allow direct access to the records in the whole file, and also dictate the order in which records are retrieved.

A similar approach is used for retrieving selected groups of records. You first specify a key that determines the order in which the retrieved records are to be displayed; then the selection rules are entered. Each criterion involves comparing a field against either a constant or a field, using a limited range of comparison operators - less than, greater than, not equal to, and so on, but not including any wild codes for text variables. So, you could specify that a character field had to start with a particular sequence, but not that it contained a specified set of characters. Criteria may be combined with 'And' and 'Or'. Since, however, you cannot include brackets to ensure the correct order of evaluation, some care must be taken to enter rules in the right order, and a few combinations will be incapable of expression. Selections may subsequently be edited to alter the criteria, but you cannot then change the key to be used for ordering records.

Selections are set up and activated (or re-activated, since, as is the case with virtually every other data management package on micros, the indexes that implement selections are not kept up-to-date when the file is amended) through the housekeeping

section of PC Promise. This is activated from a particular screen, thus dictating at the same time the selection of fields and the format of display used when the group of records is retrieved. This means that any particular selection can be used only from one screen, but since they are not kept up-to-date, this is probably desirable in any case, and certainly avoids a good deal of complexity.

CALCULATION

You can derive fields on date entry screens from other fields, including fields from related files, and from constants, using the arithmetic operators. PC Promise uses a question-and-answer approach to setting up calculations - I suspect most people would find it less tedious just to type in the calculations. A similar method can also be used to derive totals into a superior record from the related group of records lower in the hierarchy - for example, in our adult/child example, you might want to total the children's combined pocket money into a single record showing family expenditure.

Totals thus calculated can be further aggregated into the next level in the hierarchy if there are more than two levels. This seemed to be the way in which one would calculate report sub-totals, where the limitation that not more than 4 files can be open at once would dictate a maximum sub-total level of 4. This is a generous limit, but the approach is somewhat unusual, and would mean more work than the generalised sub-totalling features usually found in reporting modules. As with other aspects of reporting, this is likely to be improved in the next version of the package.

MULTIPLE FILES

PC Promise allows you to have up to 4 files open at once, and to connect them in several ways, implemented through the 'screen jump' facility available when designing a screen. Files may be connected hierarchically to any depth, provided the 4-file limit is maintained for one set of screens. You can also connect files in other ways - for example, the simple

invoicing system described earlier would have product details stored in one file, customer details in another, and the invoice screen could extract and display product and customer information, together with the invoice lines for this invoice, on a single screen.

This basic approach should allow for many kinds of file relationship, and be adequate for a wide range of applications. There are limitations, however - for instance, I couldn't find a straightforward way to use an invoicing system of this type to decrement stock levels automatically. Such updating is often achieved by 'posting' information entered into one file to another, and this facility is expected in the the next version of PC Promise.

HOUSEKEEPING & SECURITY

PC Promise includes some routines for reconstituting indexes and allows dynamic reorganisation of files, including deleting fields. I couldn't find a way to delete whole files or sets of files within the package.

When you first start up PC Promise, you are asked to enter a password. Individual screens can be protected with up to five different pass-words; if the password you enter at the start is one of those five, you will be allowed to access the screen; otherwise you will not. Your access will either be full or read-only, depending on the privilege given to the password when the screen was designed. The utilities include one to edit passwords after a screen has been set up.

This kind of approach should be quite adequate for the sort of system that most people will want to set up, and it has the further merit that you can ignore it altogether if you wish.

TAILORING

The tailoring facilities in PC Promise are rather patchy. You can set up menus simply by giving a screen the Menu type, and entering the prompts on the screen background. You then designate a single field as the prompt item, and define the screens to which the menu screen is to jump, according to the option input from the keyboard. Up to 15 screens may be included in

the list, which should be more than ample.

At present, however, you can only jump to screens (including print-type screens for producing reports). There is no keystroke recording or similar system, so you cannot go on to dictate, for instance, which index or selection is to be used, or string together a sequence to update a selection automatically before it is used. The end user must know enough about the way the system works to choose the right index (simple enough if sensible index file names are chosen, since PC Promise allows you to scroll through the list of names with a function key), and to use the house-keeping facilities to update selections. Additions to the user-designed menu system are expected in the next release.

It is not possible to invoke a user-defined menu directly from PC-DOS - you must load PC Promise and display its main menu first. However, the first item on this is an option to 'use a system', which provides a branch to a special user menu from which screens (including other menus) may be driven. By means of password-protection you can limit users to just this option, so the desired effect can largely be achieved at the expense of a few extra key-strokes.

A user-specified Help screen may be attached to any field, and is always accessed through function key F2. This is in addition to the help provided by PC Promise itself, accessed through F1.

LINKS WITH OUTSIDE

PC Promise allows you to import data from files stored by Lotus 1-2-3, dBaseII and dBaseIII, and ASCII text files in either fixed or command-eliminated format. The importing must be into an otherwise empty data file.

USER IMAGE

PC Promise uses a combination of menus, question-and-answer and function keys to get instructions from the user. Function keys are used extensively only in screen-painting, but here I regretted the absence of a keyboard template. Otherwise, I found PC Promise exceptionally easy to use,

even when setting up reasonably complex file structures.

For my personal taste, the number of different colours used in the sub-menus is rather overpowering, but I did get used to it. You can, as I've said, control the colours used to display your own screens and Help text. I was also a bit irritated at times by the inability to skip through levels of menus quickly - you have to press Return rather a lot in some parts of the package.

DOCUMENTATION

The package comes with a refreshingly slim manual that includes both tutorial and reference sections - another contrast with systems which seem to assume that users have a diploma in fast reading. However, as often happens with a new system, the reference section is not comprehensive, but the Help text usually is, so you can mostly get by quite happily by browsing through the system.

CONCLUSION

To users of the IBM PC and 100 per cent compatibles, PC Promise provides powerful file-handling and display capabilities at a very fair price. It also stores data economically, making it well suited for people whose information is irregular in length or structure. The version I tested lacked some of the reporting and selection features needed by a good many users, notably the ability to construct, straightforwardly, reports that are more than 80 columns wide. It would be even more flexible and powerful in its file-handling if it had batch processing and 'posting' facilities; its utility as a system developer's tool would be enhanced by more extensive control.

In its current state, its combination of features, ease of use and price make PC Promise very good value for money. With some slightly rough edges tidied up and a good implementation of the enhancements I've mentioned, it could be a world-beater.

SUMMARY

Supplier:	Duncan Data Bases
Importer:	Amsnet International Pty. Ltd.
Cost:	\$249
System type:	PC
Version	
Reviewed	1.1
Features:	Powerful file-handling and linking. Stores information in variable length records with long fields, so suitable for most types of information. Good data validation and display features, including display of several records per screen or screens per record.
Drawbacks:	Adequate but not powerful selection features. Reporting simple but not extensive: 80-column width limit.
Ease of use:	Screen design and file definition process is very easy, selection a bit less so. Good help for designers & users.

HOW TO TURN YOUR PCW8256/8512 INTO A BUSINESS WORKSTATION

SANDPIPER ACCOUNTS

A SIMPLIFIED INTEGRATED ACCOUNTING SYSTEM

Each transaction need only to be entered once,
all relevant ledger postings happen automatically at the time of posting.

Specially written for PCW8256

Utilizes the RAM Disk to eliminate the need for changing disks during the day.

Personalized Invoices/ statements/remittances

Produces Professional Documents with Full Business Details on Inexpensive blank paper thus improving your company's image. Designed to fit standard window envelopes.

Large file capacity

Sufficient Sales, Purchase, and Nominal Ledger Records may be kept for most businesses on 1 data disk.

Easy to use - Designed for Inexperienced Users

Full instructions for use appear on the screen. The comprehensive manual need only be used for reference.

Full customer telephone support - available if required.

Sales Ledger

Invoice Posting
Cash Receipts
Debtors List
Statements
View Account

Purchase Ledger

Bill Posting
Cash Payments
Creditors List

Remittances
View Account

Name & Address Labels

Nominal Ledger

Lists of Accounts
Reports
Periodic Transactions
N.L. History

Cashbook

Bank Statement Entry
Full Reconciliation
Periodic Transaction
View
(gives TRUE cash status)

Single Drive System:

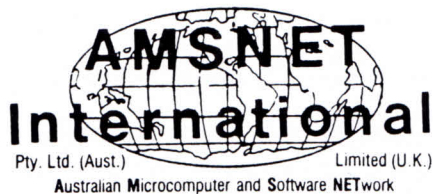
200 Accounts
(Sale, Purchase)
1000 Transactions
200 Nominal Accounts

Dual Drive System:

1000 Accounts
(Sales, Purchase)
4000 Transactions
200 Nominal Accounts

Management Reports

- 1) Stock Report
Value of Stock
Cost of Sales
- 2) Assets including
Depreciation
- 3) Prepayments &
Postpayments
- 4) Expenses
- 5) Profit & Loss
- 6) Balance Sheets



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LernLoco and Typewrite	\$69.90	<input type="checkbox"/>

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Address _____

Tel. No. _____

DON'T GO LOCO LEARNING LOCOSCRIPT!

LERNLOCO is a step by step tutorial on disc which takes you through the various functions of the wordprocessor. Included throughout the tutorial are various exercises designed to give you full working experience in the creation and manipulation of documents. The tutorial teaches and tests the user from within the LocoScript wordprocessor and covers many features which many users probably didn't even realise existed. Users will become so confident that they will even print their own personalised manual.

LERNLOCO functions include:

- Key functions and Editing • System, Data discs and copies
- The Disc Management Screen, movement and remaining files and the memory drive.
- Printer styles, pitch & width • Direct commands and options
- Justification, centring and reverse video
- Replace existing text with new text using the exchange function
- Block movements, Search and Replace • Templates, Rulers and Decimal tabs
- Layouts, tabulations and alterations to documents
- Headers, Footers, Pagination and page numbering
- Blocks and Phrases and how to save them • Books, Manuscripts and labels

Written in plain English by a qualified Further Education Teacher, this tutorial is used in Resident Schools in England to teach and master LocoScript. It is available from us for just \$39.95 for one copy on a CF2 3" disc.

THE JOYS OF GEM

An exploratory look at the PC1512 environment

If you've owned other micros before your Amstrad PC, you may already have heard of GEM. It's been around for over a year now, and is getting increasingly popular with manufacturers of PCs and of course with Atari, who use it on their ST range. If your PC is your first micro, then you're in for a pleasant surprise: GEM makes a computer a lot easier to use than you may have been led to believe.

Conventional micros would have you type commands at the keyboard. The micro's screen would normally issue a prompt (often in the form A>) to show you where to type, and would expect you to key the command in a pre-set form. A typical command to read the directory of a disc would be *DIR*, and *directory*, *cat* or *catalogue* would not do. The user was obliged to learn a series of these commands to do simple things such as copying or deleting files.

The reason for this technique was that many early micros had very limited screen-handling. Few could show graphics on the screen and nearly all relied on the keyboard for all input.

A few years back, apple computers introduced a very expensive micro called Lisa, which offered a radically different approach. The machine displayed much of its information graphically on the screen, and control of the micro was shared between the keyboard and a small hand-held unit called a *mouse*. Moving the mouse around on a desktop moved a pointer on the screen, and a button on top of the mouse was used to select one function from a list displayed on the screen.

This system of working (in jargon, this *environment*) was adopted on Apple's Macintosh micro, a much less expensive computer which has enjoyed sales second only to IBM's PC. Lots of micro users argued that it was the easy-to-use environment that appealed so much on the Mac, and several manufacturers asked, "Why can't we do the same thing on an IBM PC?"

One of the answers was GEM, from Digital Research. It offers the same kind of graphics environment as the Apple computers, but on a wide range of PC-compatible micros.

WHAT IS GEM

GEM is a 'Graphics Environment Manager' that you control with a mouse. It removes the need to learn a lot of different commands to control your micro, but

instead displays symbols on the screen to represent disc drives and the subdirectories and files on them. These symbols are usually known as *icons*.

When you run GEM Desktop (the file-handling part of GEM) on your Amstrad PC the display is divided into three main parts. Two large areas of the screen are displayed as windows.

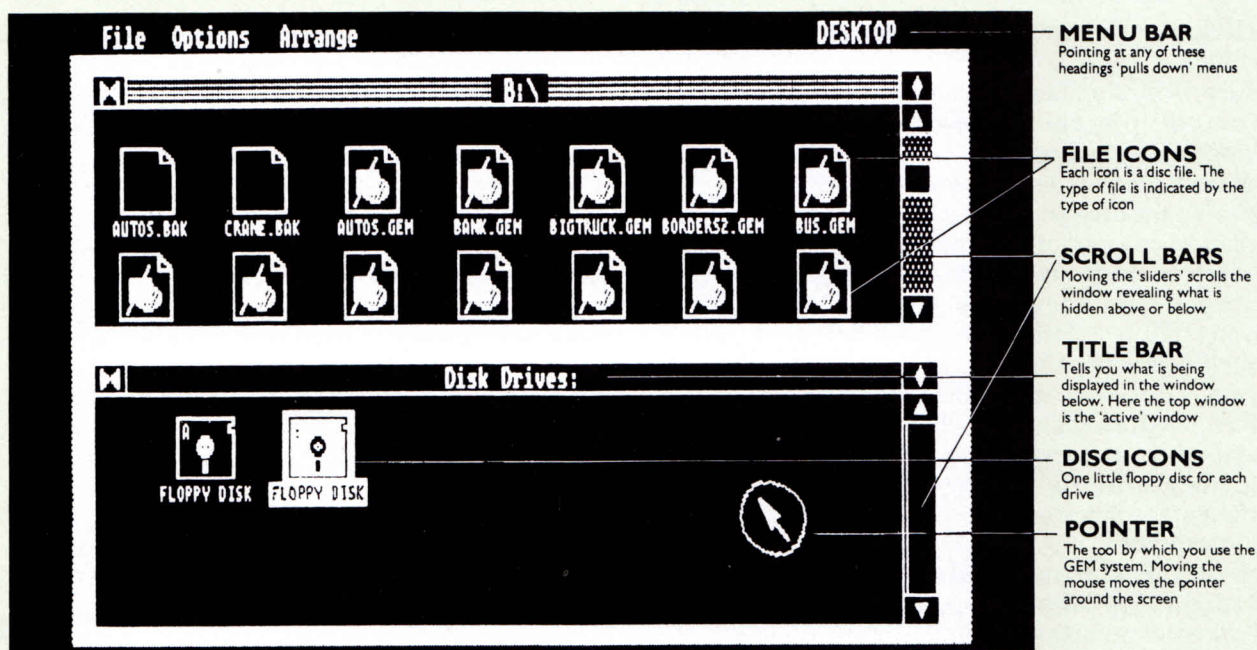
Windows are widely used in GEM to mark out sets of information. Often there is more information than can be displayed in the window at one time, and GEM allows you to move the information around behind the window, so you can see any part of it. It's something like using a magnifying glass on a map: you can move the sheet around under the lens and see the details of any part of the map. The difference is that the window is the only view you get.

The bottom window in GEM Desktop show icons of the disc drive(s) connected to your micro. The files on the selected drive are displayed in the top window. If you have two drives connected to your PC, you can select the second drive by moving the mouse, which moves the pointer (a small slanted arrow), to point at that drive's icon - then press the mouse button to select it.

Selecting an icon in this way is known as *clicking*. So to display the files on the second drive of a twin-drive system, you would click on that drive's icon.

To scroll the information through a window, use the slider on the right-hand side of the window (see diagram). 'Drag' the slider up or down the scroll bar, and move the whole window around the screen by dragging it by its title bar. Clicking on the bow-tie icon in the top-left corner of the window switches it off, and the window and its contents disappear from the screen. *Dragging* involves pointing at the icon to be dragged and then pressing and holding down the mouse button while moving the mouse. The icon appears to be attached to the pointer while you do this, and moves with it. As soon as you release the mouse button, the icon stays in its new position on the screen, and you can move the pointer normally again. The top window on the GEM Desktop screen shows all the files and folders on the selected disc.

Each file is displayed in this window as a file icon with the filename underneath it. If you want to run a



A typical GEM screen. The bottom window shows the two disc drives in use. The icon for disc drive B has been selected, so the top window shows some of the files on the disc in drive B. Scrolling, using the slider in the scroll bar, would reveal the rest of the files on that disc.

program from the Desktop, you point to that file's icon and double-click (press the mouse button twice in quick succession). The icon is displayed in inverse video (in negative) to show it has been selected, and the program loads from disc and runs.

If the program is written to work under GEM, like *Locomotive's Basic 2*, then when you leave it you automatically return to the Desktop. Some on-GEM programs also allow GEM to return when you quit them. If they don't, you have to reload GEM from scratch.

A *folder* is GEM's version of a sub-directory. When you have a lot of files connected with a particular application - many programs written in *Basic 2* or several text files written with a word-processor - it's often convenient to collect them all together and put them into a folder. You can label the folder 'Basic' or 'w/p', and the separate files don't then clutter up the main file display until you select the folder.

You can have one folder within another. You might have a general folder called 'W/P' containing other folders labelled 'Letters', 'Invoices' and 'Statements'. You can have many levels of folder, one inside another, to help keep your files in order.

THE MENU BAR

The third area of the screen is the *menu* bar. This is the strip along the top which contains a number of different headings. If you point to any of these, a menu of different options associated with that heading rolls down over the screen. As you move the pointer over the menu, each option in turn is highlighted in

inverse video.

If you pull down the 'File' menu, for instance, you see several options concerned with manipulating files. Unless you have already selected a file icon, some of these options will appear faint in the menu. This means that they are not currently available.

This is what each option does:-

New folder creates a new empty folder for you to put your files in. You type in a name for it and its icon is then added to those currently on display in the top window. If you then open the folder by double-clicking on it, the window will be blank until you copy files into it or create new ones. The sequence is shown in the diagram.

Close and **Close window** are similar options. The first closes the current folder (if one is open) or removes the window from the screen if you're looking at the main file display. The second closes any number of folder levels and the main file window in one go.

To output takes you to a separate part of GEM Desktop which allows you to print out a file from any GEM program, including parts of the screens themselves. The screendumps which accompany this article were produced using Output.

Quit is self-explanatory. It closes any files you have open and leaves GEM, taking you back to DOS Plus or MS-DOS.

Each of the other headings in the menu bar has a similar menu with a series of options to help control your micro. Even the Desktop heading conceals a menu of its own, and three accessories supplied with GEM:

the clock, the calendar and the snapshot.

The clock

This accessory simulates a small desk clock, which you can call up by pulling down the Desktop menu and clicking on the clock option.

The clock contains a small window of its own, displaying the time on one line, the data beneath. You can set any part of the time and date by pointing to it, clicking the mouse button and typing in the figures you want. The clock works on a 12-hour system, with an English-style date (day/month/year).

The clock also has an alarm, set by clicking on the very small clock-face icon to the left of the time display. This icon changes to a bell, and you can set the alarm time in the same way as the clock time. You switch the alarm on by clicking on the musical note on the right of the time display.

The calculator

Activate this accessory in the same way as the clock, and a large calculator opens up on the screen. You can enter numbers by pointing to them and clicking the mouse button, or by entering them from the keyboard. As with the clock, you can call up the calculator no matter what else is displayed on the GEM screen.

The calculator has a memory and percent keys. You complete your calculations by clicking on the equals symbol, or by pressing Return on the keyboard.

The snapshot

This is one of the most useful features of GEM. It allows you to copy any section of a GEM screen to a disc file. This may not at first seem much use, but it allows you to carry information from one GEM application to another, or to print out screen images via the Output program. You can, for instance, carry a section of formatted text from GEM Write (the word-processor) into GEM Paint (the art program), add diagrams to it there, and then print out all or any part of it.

To use Snapshot you select the option from the Desktop menu; a small window opens with the icon of a camera and a large question-mark in it. Click on the question-mark and a set of instructions on how to use Snapshot appears on the screen. Click on the camera icon and a selector box opens.

A *selector box* displays the files on the screen when GEM wants you to pick one for loading or saving. In this case you can either pick an existing file or type in the name of a new one. Whichever you do, Snapshot uses that as the file in which it records the screen image.

Once you've selected your file, the selector box disappears and the pointer turns into a crosshair. Move the crosshair to the top-left corner of the area you want to copy and press and hold the mouse button. As you move the pointer down and to the right, an

elastic rectangle stretches out between the pointer and its position when you first pressed the mouse button.

When you've completely enclosed the area you want to copy, release the mouse button. Snapshot then copies the marked area into your selected disc file. Clicking on the bow-tie icon switches off Snapshot

WORKING WITH GEM

There is quite a lot more to be said about GEM Desktop. We haven't even touched on moving, copying and deleting files. But once you've mastered a few basic techniques you'll find working with GEM very straightforward and a lot easier than all the commands DOS Plus or MS-DOS require.

SOME EXPLANATIONS

FILES

A file is a part of a disc which holds a particular piece of information; it might be a Basic program, a text file from a word-processor or a picture from a drawing or painting application. Any program or its data can be stored on a disc file. The word 'file', for once in the world of computers, is quite a good term - a disc file serves a very similar purpose to the conventional files you might use at home or in the office.

WIMPS

The four components of the GEM system - Windows, Icons, a Mouse and a Pointer - have given their initial letters to an acronym which is often used for this kind of operating system. It's known, believe it or not, as a WIMP environment.

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Part Two of our Music Special

Last month, computer musician Mark Jenkins investigated the musical possibilities of Arnold with an explanation of the development and use of the MIDI. Reviews of Miditrack Performer (EMR), Maestro (Vanguard Leisure), Amdrum (Cheetah) and Music Master (Vanguard Leisure) were provided. The best is yet to come in this final part.



THE ADVANCED MUSIC SYSTEM

Rainbird: all CPCs (disc only)

The Music System from Rainbird was certainly way ahead of the competition when it was first released some six months ago, and none of the music packages since have really done anything to change this. Not content with merely having the best music product on the market, Rainbird have brought out a new improved version for disk users. They call it *The Advanced Music System*, and I'd say that 'advanced' is the word for it.

Rainbird have added two new modules to the original system: as well as the music editing and playback section, the advanced package has printout and file-linking modules. These beef the system up a great deal, and that's no mean feat considering how thorough it was to start with.

USING THE SYSTEM

You'll notice the extra features as soon as you start using the package. After the loading screen you face a new control screen, with icons meaning link, edit/playback and printout. To start with, the linker is highlighted. You can move the highlight to either of the other modules by hitting the space bar, or select the highlighted module by hitting enter/return. This is the system used throughout the package for

selecting icons, so owners of the original system will immediately feel at home.

The first thing you'll want to do is create your piece of music. For this you'll need to select the edit/playback module.

EDITING AND PLAYBACK

The edit/playback screen is dominated by the Voice Monitor Window, or VMW. There are three voices - three separate parts to your harmony - but you can edit only one at a time. You can scroll through the score for each voice, adding and deleting notes as you see fit. The use of a scrolling window makes editing very easy indeed; it is one of the system's strengths that its competitors would do well to emulate.

Editing options include just about every feature a piece of music can have: dynamics, accents, accidentals or whatever. These are all easily accessible from pull-down menus, and there are quicker key combinations you can use once you're more experienced. You can set the system to insert barlines automatically, or you can put them in by hand if you have a taste for irregular time signatures. The only serious omission is triplets, but that's not exactly crippling.

Recording was a unique feature of the original system, and is still something quite unusual these days. In recording mode, part of Arnold's keyboard behaves like a piano. By hitting different keys you can play tunes, either recording them or just practising. Recording a piece of music doesn't just store it for playback - it actually writes your tune onto the staff for subsequent editing or printout.

Once you've written or recorded your tune, you'll want to play it back. Here there is a really nice option: you can set your score to scroll through the VMW, a note at a time, as the system plays it. Unlike in edit mode, all three voices are displayed at once. It's an impressive and entertaining feature, and a great way to track down that elusive wrong note.

What's really nice about the playback system is the way it behaves like normal music. Accidentals affect subsequent notes in the bar, for example, and the first note of each bar is accented. This sort of thing adds to

my impression that the package really can offer something to serious musicians, as well as the enthusiastic amateurs most packages cater for.

HARD COPY

The separate printout module is well thought out, and will prove invaluable to musicians everywhere. It can print up to six voices on one staff, displaying dynamics and even allowing you to add a line of lyrics or additional directions.

The ability to handle six different voices is very impressive, but it does cause the odd complication. After all, the editor can only handle three voices and music files only contain three voices.

To get a six-voice tune then, you have to edit and play it as two three-voice tunes. You can then switch to the printout module, load the two separate music files you've created and then print all six voices out.

Adding lyrics is very straightforward - just type them in underneath each bar. You can use only one line, though, and some users may find they need to save this for additional, non-*Music System* directions like *legato* or *andante*. The lyrics come out in a small, rather poorly defined typeface but are perfectly readable. It's a shame they couldn't be slightly more

legible though - of a quality to match the notes - since the system has obvious uses in music teaching.

The module can drive a wide range of dot-matrix printers, and can cope with continuous or single-sheet paper over 80 or 132 columns.

It can split bars at the edge of the page or wrap them onto the next line, cut out individual voices or even clefs, and string separate files together for printing lengthy works.

LINKING

The need for that last printout option stems from the main shortcoming of the original system: the small amount of memory available for your tune. There's room for a maximum of 1000 notes in memory, and that has to be shared between the three separate voices.

To write longer works than this limit would otherwise allow, you have to use the advanced system's new linker module. This allows you to load in up to 13 music files at a time, with an upper limit of over 6000 notes total.

Having loaded the files you can then build them up into a playing sequence - a list of files to be played. You can repeat movements or entire pieces, so that the sequence itself involves many more than 6000 notes. You can have up to 99 separate entries in the sequence, and that will be more than enough for most purposes. The whole sequence can be saved to disk, loaded in later and played as a concert or simply as one enormous composition.

VERDICT

The main section of the system looks every bit as good now as it did six months ago. The linker goes some considerable way toward solving its space problems and as such is a welcome feature of the advanced system.

But it's the hard-copy facility that really earns that extra money. The addition of the printer module gives the system a whole range of uses it didn't have open to it before. You can now record a piece on the keyboard, edit it in the VMW and dump it to your printer as a finished score without once having to pick up a pencil.

If you want to arrange a piece for an ensemble and then print each instrument's part separately, the system can do this quite easily.

Choral arrangements would need a little more work to cope with differences in the lyrics of separate parts, but the system would still be an enormous advantage.

The printout module makes the *Advanced Music System* a useful musical tool, as well as the entertaining and easy-to-use program the original system was.



E.M.U. (ELECTRONIC MUSIC UTILITY)

Discovery: all CPCs (cassette or disc)

This Discovery package could be the first to give *The Music System* a run for its money. It isn't just a simple music program by any means - it could come in very handy as a utility for anyone wanting to add music to their own programs. But let's take a look at the editing and playback side of things first.

MAKING MUSIC

EMU is a menu-driven program: to choose an option, you have to move a highlight up and down or from side to side in a list of choices, hitting the enter or return key when you've found the one you want. This is a deliberate departure from the more fashionable icon system, and does avoid those annoying 'guess what this symbol means' problems. I don't think it really makes much difference in the long run, but it does make things a little easier when you're learning to use the system.

Selecting 'Music' from the main menu gives you the main editing screen, with a new sub-menu running across the top of it. Sub-menu options include edit, record and play. 'Edit' gives you direct access to the scores for the different voices. All three of these are visible at once, so it's easy to create decent harmonies without too much voice switching.

This is probably just as well, because there is a slight problem with voice-switching on the EMU: infuriatingly, it returns you to the start of the piece every time you move from one voice to another. This is a shame, because the editing is otherwise very nice indeed. Using the numeric keypad as an extended cursor pad you can rapidly select the pitch and length of note or rest you want, and facilities for deleting and inserting are the best I've yet seen on a music package.

If all that musical notation seems a little daunting, there's a very effective *Music System*-style 'Record' option using the top two rows of the micro's keyboard as your piano. Once you've recorded your music onto the stave, you can bring all that lovely editing power to bear on it - and that's a strong combination.

USING THE MUSIC

When it comes to doing things with the music you've created, EMU may not be able to print the stuff out but it does have another trick up its sleeve. By selecting the option 'Save-RSX' from the tape/disk sub-menu, you can create a 'stand-alone' file. This is a machine-code routine which you can use with your own Basic programs, quite independently of EMU itself.

All you need to do to use such a file is write a simple piece of Basic into your program - about five lines, all told. Run these to set the system up, and you can then use the bar command PLAY to play a particular piece of music. The music will keep going while you do other things, so you could use it quite easily for adding music to Basic games. The only thing it won't play through is a tape load or save, and that's hardly likely to spoil the package for you. It's an easy system to use, and vastly less effort than writing your own music routines. As for space, the demo file of the *Radetsky March* took up 6K - not bad for a substantial piece of music plus the system to play it.

VERDICT

As a straight music-composing program, EMU would come second only to *The Music System* for performance and value for money. It lacks the scrolling display and overall simplicity of Rainbird's offering, but you can see all three voices at once and there's that slick insertion and deletion too.

Of course, EMU isn't just a composing program. It's also a great way to add music to your own Basic programs, and that's something *The Music System* can't do for you. If you're a musician you might well prefer TMS, but if you're a bit of a programmer then EMU's got to be well worth a look.

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sure chest,92,Crowbar,204,Oil,114,Barrel
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n leg,229,Ladder,187,Deck of cards,235,R
usty razor,168,Leather strap,279,Large h
ammer
150 GOTO 440
160 a=FRE(""):PRINT:PRINT"What next brav
e sir":b$=""
170 a$=INKEY$:IF a$=""THEN 170
180 a=ASC(a$):IF a>239 AND a<244 THEN 36
0
190 IF a=16 THEN 170
200 IF a=127 AND LEN(b$)>0 THEN b$=LEFT$
(b$,LEN(b$)-1):PRINT":GOTO 170
210 IF a=13 THEN 230
220 b$=b$+a$:PRINT a$::GOTO 170
230 m=0:FOR t=1 TO LEN(b$):IF MID$(b$,t,
1)=" " THEN m=t:t=LEN(b$)
240 NEXT:IF m=0 THEN 310
250 x$=LEFT$(b$,3):z$=MID$(b$,m+1,3):b=0
:c=-1
260 x=0:FOR xx=1 TO LEN(a1$) STEP 3:b=b+
1:IF x$=MID$(a1$,xx,3) THEN x=xx:xx=LEN(
a1$)
270 NEXT:IF x>0 THEN 290
280 PRINT:PRINT"I DON'T UNDERSTAND":GOTO
160
290 z=0:FOR zz=1 TO LEN(a2$) STEP 3:c=c+
1:IF z$=MID$(a2$,zz,3) THEN z=zz:zz=LEN(
a2$)
300 NEXT:IF z>0 THEN 350 ELSE 280
310 y$=LEFT$(b$,2)
320 y=0:FOR yy=1 TO LEN(a3$) STEP 2:IF y
$=MID$(a3$,yy,2) THEN y=yy:yy=LEN(a3$)
330 NEXT:IF y>0 THEN 340 ELSE 280
340 ON y GOTO 440,1,2610,1,2640,1,2650,1
,2700,1,2750
350 PRINT:PRINT:ON b GOTO 2440,2440,2500
,2500,2560,1940,2210,2150,2550,2380,2260
,2260,2410,1680,2350,1880,1780,1750,2590
,2310,1630,2150,1840,2570,2120,2150,2080
,2100
360 IF n=54 AND s2=0 THEN PRINT"You try
to run away but the crab catchesyou and
cuts you in half with one of its giant pi
ncers.":GOTO 1590
370 IF n=5 AND s3=0 THEN PRINT"You try t
o avoid the seaweed but it senses yo
ur movement and wraps itself around yo
ur body and squeezes the life out of yo
u.":GOTO 1590
380 IF it(3)<>500 THEN PRINT"You try to
move but because you have left your "
;it$(3):" behind you cannot see where yo
u are going. You soon trip over in the d
ark and crack your skull open.":GOTO 159
0
390 IF a=241 AND (yp(n)=1 OR yp(n)=4 OR
yp(n)=5 OR (yp(n)>7 AND yp(n)<13)) THEN
n=n-15:GOTO 440
400 IF a=240 AND (yp(n)>0 AND yp(n)<9) T
HEN n=n+15:GOTO 440
410 IF a=243 AND ((yp(n)>2 AND yp(n)<7)
OR yp(n)=9 OR yp(n)=10 OR yp(n)=13 OR yp

```

```

(n)=16) THEN n=n+1:GOTO 440
420 IF a=242 AND (yp(n)>4 AND yp(n)<10)
OR yp(n)=11 OR yp(n)=14 OR yp(n)=16 THEN
n=n-1:GOTO 440
430 PRINT:PRINT"YOU CAN'T MOVE IN THAT D
IRECTION.":GOTO 160
440 CLS
450 PRINT:ON n GOTO 1,1,1,530,540,570,1,
1,1,1,1,1,1,1,1,1,1,1,580,1,1,1,1,1,1,
1,1,1,1,1,1,1,1,590,600,620,650
460 ON n-40 GOTO 1540,1,1,1,1,1,850,840,
600,790,650,630,660,680,1,1530,1,1,1,1,1
,630,860,650,1,630,640,670,710,1,1520,1,
1,1,1,1,630,1,630,810
470 ON n-80 GOTO 800,650,730,720,1,1510,
1,1,1,1,1,640,880,870,820,630,830,740,1,
1,1,1,1,1,1,910,600,890,650,1,630,1,750,
600,600,770
480 ON n-120 GOTO 630,1,1,940,650,640,11
00,600,600,600,1090,1,1,1,1,920,960,600,
950,1040,1080,800,650,1,1,1,1,1,1,1,630,
970,650,630,1080,650,630,1110,650
490 ON n-160 GOTO 1,1120,600,750,1,630,1
,980,630,640,1090,640,760,740,1,1,1130,1
140,1,1,640,1,980,990,600,650,1020,630,9
80,1190,650,1160,790,1250,650,1400,1410,
1410,1410,1420
500 ON n-200 GOTO 1000,1010,1030,1230,12
00,630,630,1,640,1260,1430,1440,1450,145
0,1460,1,1,1,1,1220,600,800,1170,1,1,1270,
1430,1450,1450,1450,1460,1,1,1,1240,640,
1210,980,980,1320,1290
510 ON n-240 GOTO 1430,1450,1450,1450,14
60,1,1,1,980,1,640,1,1330,800,1310,1430,
1450,1450,1450,1500,1,1,1,1,1,1,1,920,64
0,640,1470,1480,1480,1480,1490,1,1,1,640
,600
520 ON n-280 GOTO 1340,600,790,620,1310,
1,1,1,1,1,1,1,1,1,1,1,1,1,1,1370,1360,1,1,1,
1,1,1,1,1,1,1,1,1,1,1,1380
530 PRINT"YOU ARE ON THE WESTERN END OF
A SMALL BEACH TOWERING CLIFFS BLOCK YO
UR WAY TO THE NORTH. THE CALM MIST SHROU
DED SEA ISTO THE SOUTH.":GOTO 1550
540 IF s3=1 THEN PRINT"YOU ARE ON A SMAL
L BEACH. YOU CAN SEE A CAVE ENTRANCE IN
THE CLIFFS TO THE NORTHCOVERING THE FLOO
R IS A LOT OF DEAD SEAWEEED.":GOTO 15
50
550 PRINT"YOU ARE ON A SMALL SANDY BEACH
FROM THISPOINT YOU CAN SEE A SMALL CAVE
ENTRANCE IN THE CLIFFS TO THE NORTH. SU
DDENLEY YOU SEE SOMETHING MOVE BY YOUR
FEET. IT IS ONLY THEN THAT YOU NOTICE Y
OU ARE SURROUNDED BY SOME KIND OF DEA
DLY"
560 PRINT"SEAWEEED. DON'T MOVE OR YOU ARE
DEAD.":GOTO 1550
570 PRINT"YOU ARE ON THE EASTERN END OF
A SMALL BEACH. TOWERING CLIFFS BLOCK O
FF FURTHERPASSAGE TO THE NORTH AND EAST.
":GOTO 1550
580 PRINT"YOU ARE IN A SMALL DARK TUNNEL
THAT SMELLS OF ROTTING SEAWEEED. ITS
A GOOD THING YOU HAVE A LANTERN OR YO

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U WOULD NEVER HAVE FOUND YOUR WAY THRO
UGH THESE CAVES. ":GOTO 1550
590 PRINT"YOU ARE IN A SMALL CAVERN THAT
HAS EXITSTO THE NORTH, SOUTH AND EAST.
THE FLOOR OF THIS CAVERN IS COVERED IN R
OTTING SEAWEED. ":GOTO 1550
600 IF n=280 AND t6<>2 THEN PRINT"YOU WA
LK INTO THE SPIDERS WEB. THE SPIDER
S INSTANTLY ATTACK YOU. THE POISONFROM T
HESE SMALL SPIDERS IS DEADLY AND YOU DI
E A SLOW AND PAINFUL DEATH. ":GOTO 1590
610 PRINT"YOU WALK ALONG A SHORT PASSAGE
THAT RUNSEAST AND WEST. ":GOTO 1550
620 PRINT"YOU HAVE ENTERED A LARGE CAVER
N. THE ROOF OF THIS CAVERN IS SO HIGH
THAT THE DIM LIGHT FROM YOUR LANTERN CA
NNOT REACHIT. EXITS ARE TO THE NORTH, EA
ST AND WEST. ":GOTO 1550
630 PRINT"YOU ARE IN A NARROW TUNNEL THA
T RUNS NORTH AND SOUTH. ":GOTO 1550
640 PRINT"YOU ARE AT A DEAD END. YOU LOO
K ALL AROUND BUT CAN FIND NO OTHER W
AY TO CONTINUE. ":GOTO 1550
650 PRINT"YOU WALK ALONG A SMALL PASSAGE
UNTIL YOUREACH A SHARP CORNER. YOU CAN
MOVE WEST OR NORTH FROM THIS POINT. ":GOT
O 1550
660 PRINT"YOU ARE IN A SMALL CAVERN. TO
THE NORTH IS A DARK AND RATHER CREEPY LO
OKING PASSAGE. BUT TO THE EAST YOU C
AN SEE DIMAND MISTY DAYLIGHT POURING IN
THROUGH A CAVE ENTRANCE. ":GOTO 1550
670 PRINT"YOU WALK ALONG A NARROW PASSAG
E UNTIL YOU REACH A DEAD END. IT LOOKS
AS THOUGHYOU WILL HAVE TO WALK BACK SOU
TH. ":GOTO 1550
680 IF s2=1 THEN PRINT"YOU ARE ON THE BE
ACH IN A SMALL COVE. LOOKING AROUND YO
U CAN SEE CAVES TO THE NORTH AND WEST. ":
GOTO 1550
690 PRINT"YOU WALK OUT OF THE CAVE INTO
A SMALL SANDY COVE. TO THE NORTH AND W
EST YOU CAN SEE CAVE ENTRANCES. YOU DE
CIDE TO INVESTIGATE THE COVE ALITTLE M
ORE. YOU SET OFF BUT BEFORE YOU CAN GET
TOO FAR YOU ARE CONFRONTED BY A GIANT
CRAB. "
700 PRINT"DON'T MOVE OR IT WILL ATTACK Y
OU. ":GOTO 1550
710 PRINT"YOU ARE IN A SMALL CAVERN. TO
THE SOUTH YOU CAN SEE DAYLIGHT. TO THE N
ORTH IS A DARK FORBIDDING TUNNEL. ":GOTO
1550
720 PRINT"YOU HAVE ENTERED A MASSIVE CAV
ERN. IT ISSO LARGE THAT WHEN YOU STAND I
N THE MIDDLE OF THE FLOOR THE FEEBLE
LIGHT FROM YOUR OLD LANTERN CANNOT R
EACH ANY OF THE WALLS. ":GOTO 1550
730 PRINT"YOU WALK ALONG A NARROW TUNNEL
UNTIL YOUCOME TO A SHARP TURN. YOU CAN
MOVE NORTHAND EAST FROM HERE. ":GOTO 1550
740 PRINT"YOU ARE STANDING AT THE BOTTOM
OF A LONGFLIGHT OF UNEVEN STONE STAIRS
THAT LEAD UPWARDS INTO THE GLOOM. ":GOTO
1550

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750 PRINT"YOU ARE AT THE TOP OF A LONG F
LIGHT OF UNEVEN STEPS THAT LEAD DOWNWAR
DS INTO THE DARK AND GLOOMY CAVERNS BE
LOW. ":GOTO 1550
760 PRINT"YOU WALK INTO A SMALL CAVE THA
T HAS ONLYGOT ONE EXIT. LOOKING AROUND Y
OU SEE A SMALL HOLE IN THE FLOOR. ":GOTO
1550
770 PRINT"YOU WALK ALONG A NARROW PASSAG
E UNTIL SUDDENLY YOU STEP OVER THE EDG
E OF A DEEP SHAFT. YOU FALL FASTER AN
D FASTER UNTIL YOU FALL OUT OF THE SHAF
T INTO OPEN AIR. LOOKING DOWN YOU SEE
THE SEA RUSHING TOWARDS YOU. YOU ARE K
ILLED THE"
780 PRINT"SECOND YOU HIT THE WATER. ":GOT
O 1590
790 PRINT"YOU ARE IN A LARGE CAVERN. PAS
SAGES LEADOFF TO THE SOUTH, EAST AND WES
T. ":GOTO 1550
800 PRINT"YOU ARE IN A LARGE CAVERN THAT
HAS EXITSTO THE NORTH, SOUTH, EAST AND
WEST. ":GOTO 1550
810 PRINT"YOU ARE IN A SMALL CAVERN THE
WALLS OF WHICH ARE A STRANGE RED COLOUR
YOU CAN MOVE NORTH OR EAST. ":GOTO 1550
820 PRINT"YOU WALK ALONG A DARK NARROW P
ASSAGE UNTIL IT ABRUPTLY ENDS AT A SO
LID ROCK WALL. YOU HAVE NO CHOICE BUT T
O MOVE TO THE SOUTH. ":GOTO 1550
830 PRINT"YOU ENTER A SMALL CAVERN THAT
HAS A MASSIVE STALAGTITE HANGING FRO
M THE CENTER OF THE ROOF. THE ONLY E
XIT FROM THIS CAVERN IS TO THE SOUTH. ":
GOTO 1550
840 PRINT"YOU ARE IN A LARGE OVAL SHAPED
CAVERN. YOU CAN SEE EXITS TO THE NORTH
, EAST ANDWEST. ":GOTO 1550
850 PRINT"YOU HAVE ENTERED A SMALL CAVER
N WITH A LOW ROOF. IN SOME PLACES IT IS
SO LOW THAT YOU HAVE TO STOOP TO GET
UNDER IT. ":GOTO 1550
860 PRINT"YOU WALK INTO A LARGE CAVERN T
HAT HAS A SOLID ROCK FLOOR. LOOKING AROU
ND YOU SEEA FEW BITS OF DRIED SEAWEED. ":
GOTO 1550
870 PRINT"YOU ARE IN A SMALL CAVERN THAT
HAS EXITSTO THE WEST AND SOUTH. ":GOTO 1
550
880 PRINT"YOU HAVE ENTERED A LARGE CAVER
N. LOOKINGAROUND YOU SEE THAT TO THE NOR
TH THE CAVERN ENDS AT THE EDGE OF A V
ERY STEEP CLIFF. YOU COULD KILL YOURSELF
TRYING TOGET DOWN THERE. YOU CAN SEE A
TUNNEL OFFTO THE EAST. ":GOTO 1550
890 IF t9=0 THEN PRINT"YOU CLIMB DOWN TH
E STEEP CLIFF. IT MUST BE A MIRACLE, YOU
ARE STILL ALIVE. BUT IDON'T THINK YOU W
ILL BE ABLE TO CLIMB BACK UP AGAIN. ":T
9=1
900 PRINT"YOU ARE IN A MASSIVE CAVERN TH
AT APPEARSTO HAVE NO ROOF. THE NORTH WAL
L SLOPES UP AT ABOUT SIXTY DEGREE'S. ":G
OTO 1550

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910 PRINT"YOU WALK INTO A SMALL CAVERN THAT HAS A VERY HIGH ROOF. LOOKING AROUND YOU SEE EXITS TO THE NORTH AND EAST.":GOTO 1550
920 IF n=268 AND t8=1 THEN PRINT"YOU WALK ALONG A NORTH-SOUTH PASSAGE UNTIL YOU SEE AN OPEN RUSTY DOOR.":GOTO 1550
930 PRINT"YOU WALK ALONG A NARROW PASSAGE UNTIL YOUR WAY IS BLOCKED BY A LARGE IRON DOOR":GOTO 1550
940 PRINT"YOU ARE IN A LARGE CIRCULAR CAVERN THAT HAS EXITS TO THE NORTH, SOUTH AND EAST.":GOTO 1550
950 PRINT"YOU HAVE ENTERED A SMALL CAVERN WITH A LOW ROOF. YOU SEE EXITS TO THE NORTH, SOUTH AND WEST.":GOTO 1550
960 PRINT"YOU HAVE WALKED INTO A MASSIVE CAVERN. THE DIM LIGHT FROM YOUR LANTERN CANNOT PENETRATE VERY FAR INTO THE GLIMMERING DEPTHS OF THIS HUGE CAVERN.":GOTO 1550
970 PRINT"YOU ARE IN A SMALL ROUND CAVERN THAT HAS A HIGH ROOF. LOOKING AROUND YOU SEE EXITS TO THE SOUTH AND EAST.":GOTO 1550
980 PRINT"YOU WALK ALONG A WIDE PASSAGE UNTIL IT STOPS AT A DEAD END. BAD LUCK, YOU WILL HAVE TO GO BACK THE WAY YOU CAME.":GOTO 1550
990 PRINT"YOU WALK ALONG A PASSAGE UNTIL YOU REACH A JUNCTION. YOU CAN MOVE TO THE SOUTH, EAST OR WEST FROM HERE.":GOTO 1550
1000 PRINT"YOU HAVE ENTERED A SMALL CAVERN WITH WALLS OF WHICH ARE VERY SMOOTH AND BRILLIANT WHITE IN COLOUR. YOU SEE EXITS TO THE SOUTH AND EAST.":GOTO 1550
1010 PRINT"YOU WALK INTO A SMALL CAVERN THAT HAS BEEN CARVED OUT OF THE SOLID ROCK. YOU CAN SEE EXITS TO THE SOUTH, EAST AND WEST FROM HERE.":GOTO 1550
1020 PRINT"YOU ARE IN A SMALL CAVERN THAT HAS ONLY ONE EXIT.":GOTO 1550
1030 PRINT"YOU WALK ALONG A NARROW PASSAGE UNTIL YOU REACH A SHARP CORNER. YOU CAN MOVE SOUTH OR WEST FROM THIS POINT":GOTO 1550
1040 PRINT"YOU WALK INTO A SMALL CAVERN THAT HAS EXITS TO THE NORTH, SOUTH AND EAST. TWO STRANGE GUARDS ARE GUARDING THE EXITS TO THE NORTH AND EAST. A LARGE SIGN READS AS FOLLOWS:--"
1050 PRINT"YOU MAY ASK ONE GUARD ONE QUESTION TO FIND OUT THE CORRECT TUNNEL TO TAKE. BUT BE WARNED ONE GUARD TELLS THE TRUTH THE OTHER LIES."
1060 PRINT"YOU ASK ONE OF THE GUARDS THE FOLLOWING QUESTION. 'if i asked the other guard which was the correct tunnel to take which tunnel would he point to?'. THE GUARD POINTS TO THE NORTH TUNNEL."
1070 PRINT"'now i know which tunnel to take' YOU SAY TO YOURSELF. THEN YOU SUD

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DENLY HAVE A LAPSE OF MEMORY AND FORGET.":GOTO 1550
1080 PRINT"YOU WALK INTO A DARK TUNNEL. SUDDENLY A ROCK FALL BLOCKS THE PASSAGE BEHIND YOU. I HOPE YOU HAVE TAKEN THE RIGHT PASSAGE.":t8=0:yp(155)=13:yp(141)=13:GOTO 1550
1090 PRINT"YOU WALK ALONG A PASSAGE UNTIL YOU REACH A SHARP TURN. YOU CAN MOVE WEST OR SOUTH FROM HERE.":GOTO 1550
1100 PRINT"YOU HAVE ENTERED A LARGE CAVERN WITH A HIGH ROOF. LOOKING AROUND YOU SEE EXITS TO THE NORTH AND EAST.":GOTO 1550
1110 PRINT"YOU ARE IN A LARGE CAVERN THAT HAS MANY STALAGMITES HANGING FROM THE ROOF, YOU SEE EXITS TO THE SOUTH AND EAST.":GOTO 1550
1120 PRINT"YOU WALK INTO A SMALL CAVERN THAT HAS WALLS THAT ARE ALL THE COLOURS OF THE RAINBOW. EXITS ARE TO THE NORTH AND EAST":GOTO 1550
1130 PRINT"YOU WALK ALONG A LONG NARROW PASSAGE UNTIL YOU COME TO A SHARP CORNER. YOU CAN MOVE SOUTH OR EAST.":GOTO 1550
1140 IF it(6)<>500 THEN PRINT"YOU ENTER A SMALL CAVERN. A MEAN LOOKING SMUGGLER LOOKS AT YOU FROM A CORNER OF THE CAVERN.":GOTO 1550
1150 PRINT"YOU WALK INTO A SMALL CAVERN. LOOKING AROUND YOU COME FACE TO FACE WITH A MEAN LOOKING SMUGGLER. HE LOOKS YOU UP AND DOWN AND SEE'S THE ";IT$(6);".":"HOW DARE YOU STEAL MY PROPERTY HE SHOUTS AND INSTANTLY KILLS YOU.":GOTO 1590
1160 PRINT"YOU HAVE ENTERED A MASSIVE CAVERN. IT IS SO LARGE THAT THE DIM LIGHT FROM YOUR LANTERN CANNOT REACH ANY OF THE WALLS OR ROOF.":GOTO 1550
1170 IF yp(222)=12 THEN PRINT"YOU ENTER A SMALL CAVE. LOOKING AROUND YOU SEE THE GHOST OF LONG JOHN SILVER THE FAMOUS PIRATE. I DON'T THINK HE IS GOING TO LET YOU PAST.":GOTO 1550
1180 PRINT"YOU ENTER A SMALL CAVERN. LOOKING AROUND YOU SEE A VERY HAPPY PIRATE GHOST. HE SMILES AND WAVES TO YOU AS YOU ENTER.":GOTO 1550
1190 PRINT"YOU ARE IN A SMALL CAVERN. THE FLOOR OF THIS CAVERN IS RATHER UNEVEN AND YOU HAVE TO WATCH WHERE YOU STEP. EXITS ARE TO THE NORTH, EAST AND WEST.":GOTO 1550
1200 PRINT"YOU WALK INTO A CAVERN THE FLOOR OF WHICH IS COVERED IN SAND. SUDDENLY YOU FEEL YOURSELF SINKING. THIS MUST BE QUICKSAND. YOU TRY TO STRUGGLE FREE BUT ONLY GET STUCK EVEN MORE UNTIL YOU FINALLY VANISH FOREVER.":GOTO 1590

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Tape subscribers please note that the complete adventure will be provided with publication of the final part of the adventure.

CP/M Revisited

A Primer for Beginners - Part Three

from Fred Robertson-Mudie

Consider now the naming of files and programs. They can be called virtually any name desired, provided some basic rules are adhered to, i.e. the first part of the file name is no more than eight letters and numbers, and the second part, or extension, is no more than three letters or numbers. There are certain characters which cannot be used, though these are detailed in the manual. The standard way of referring to an example filename is to denote it as FILENAME.EXT though this is sometimes abbreviated to FN.FT. In addition, there are certain conventions, in regard to the extensions, used for naming files and programs, and following these conventions can be useful when looking at a file on disc to see exactly what type it is. The more common extension conventions are as follows:-

File Extension	Type of file or program
.COM	CPM command or executable file
.BIN	Binary File
.BAS	Basic File
.TXT	Text or document file
.DOC	Text or document file
.BAK	Back-up file (of any kind)
.ASM	Assembly listing file
.HEX	Intel hexadecimal file
.LBR	Library file
.BQS	Squeezed file

Further details of some of these file types will be dealt with later in this series.

In relation to the CPM programs to be covered in this series of articles, it is not intended to cover the standard

ones which are supplied on the Amstrad disc, with a few exceptions, but will cover primarily the Public Domain programs which are available in many User Group Libraries.

Moving now to the various programs to be discussed, these are known as Transient Programs. These programs, like Basic programs are loaded into the Transit Program Area (TPA) of the machine and are dumped when another program is loaded in. There are CPM resident System Extension (RSX) programs, but they will be dealt with later in the series.

The first transient program to be dealt with is one called CAT.COM. This is more usually known as DR.COM, but I have renamed it for my own convenience as its function is so similar to the CAT command in Amstrad Basic and it can be force of habit to type CAT rather than DIR when using CPM. The program is useful in that it not only gives a full Basic style display of programs on a disc, including their size, but details the number directory entries used and left and the amount of disc space used and left. There is a slightly better, and clearer version on the latest Library** disc which I have called CAT3.COM. This version takes 1K less disc space and can be used for both CPM 2.2 and CPM Plus. It can, of course, be renamed CAT.COM (or whatever you like) when placed on your disc.

It should be noted that a running check on the number of directory entries used on a disc can be very useful if you have a disc with lots of fairly small programs on it, as CPM 2.2 and CPM Plus only allow a maximum of 64 directory entries per disc. What would happen if you tried to exceed that number of directory entries is open to speculation, but there is a

good chance that something would disappear into the void.

The next program to consider is PIP.COM which is probably one of the more commonly used CPM programs. Whilst the use of PIP is often confined to transferring programs from one disc drive to another, it is not often appreciated that it has a number of other useful functions. It can, for example, transfer a program from one drive to another whilst, at the same time, changing the name of the program. This is done in the following way:

```
A>PIP B:NEWNAME.TXT=
A:OLDNAME.TXT
```

It can, of course, be used to duplicate a program on the same disc with a different name in the following manner:-

```
A>PIP NEWNAME.TXT=
OLDNAME.TXT
```

PIP can also be used to concatenate, i.e. merge, two or more files. This is done as follows:-

```
A>PIP BIGFILE.ONE=
SMALFILE.ONE,SMALFILE.TWO
```

PIP has a number of other uses including sending data to and receiving data from the RS232 port (used for transferring files between machines without having to use Modems and phone lines), as well as having approximately nineteen optional parameters, including verification, echoing to the console, translating to upper or lower case etc. etc. The full details of the uses of the program and its optional parameters are too numerous to mention here, but they can be found in various texts including the two mentioned in part 1 of this series.

** Fred is referring to the Canberra Amstrad User Group Library disc.

INFOCOM ADVENTURES

A Review

by Michael Shepherd

Infocom adventures, the cause of much heartache and pain to many Commodore 64 and other computer owners, are now available for the Amstrad - from the CPC464 to the PCWs. In fact a major point of discussion among computer owners are hints and clues to these adventures, now we can join in this debate.

Infocom are an American based company, originating in the late Seventies from the Massachusetts Institute of Technology.

They got started by seeing the original mainframe adventure game by Woods and Crowther 'Adventure' and deciding they could improve on that. This was the start of their most famous game ZORK; which was released for home computers as ZORKS 1, 2 and 3. They have written many more games since then, averaging one or two titles per year.

One of the outstanding features of all Infocom adventures is that they have a parser that is second to none. (The parser is that bit of the program that tries to make sense of your input and pulls the right data for the reply from the memory.) Slowly other software houses are catching up to this standard eg. Level 9, but not many adventures understand the input "Drop all except the purple handkerchief and give the hanky to the Grue with the head cold" Infocom's do!

One very nice thing about the conversion of the adventures to the Amstrad is that Infocom have released practically all their line in one hit rather than in a trickle. I have seen available on the Amstrad ZORK 1, WITNESS, SEA STALKER, SORCERER, THE HITCHHIKERS GUIDE TO THE GALAXY, ENCHANTER and others. They have four levels of adventure ranging from introductory to expert with standard being the main category. Their story-lines range from Fantasy, Science Fiction, Mystery and Action, so there is something to suit every taste.

However as their programs are so large, they are only available on disc as the replies are read from the disc all the time. (So you have to leave the disc in the machine while playing.) If your machine runs CPM+ you can run the program immediately. With CPM

2.2 you first have to follow the instructions enclosed so you can go into CPM and run the program with the | CPM command then 'filename' when CPM has been booted. I have a 464 and have had no problems with the adventures.

HITCH HIKERS GUIDE TO THE GALAXY

I own this adventure game so I'll finish with a review of it.

The game is based on the zany Sci-Fi book of the same name. In fact the author of the book, Douglas Adams, co-wrote this adventure. You play Arthur Dent, having just woken to one of the worst days of his life, and on his way to the legendary planet of Magrathea. (He doesn't know that just yet.) On his way there he encounters Vogon poetry, Babel fish and Tea. The puzzles are mind wrenching at times; the first being how to avoid being killed by a flying brick when his home is demolished.

The storyline is excellent and very funny, try to input a command when you've been killed by the brick; and watch for the "thing your Aunt gave you but you can't work out what it is" in your inventory. The adventure quickly diverges from the book's plot which can only offer some vague clues to the first few puzzles; especially when in the spaceship 'Heart of Gold' at last all the other characters go off to the sauna leaving you to your own devices.

This is an excellent and at times fiendishly difficult adventure. This or one other of the Infocom adventures is a "must buy" for your collection. It, like all of Infocom's products, is well presented and documented with a large manual and comes with a few extras like your very own fluff, a pre-packaged microscopic space fleet, and no tea. But the price of \$50 to \$60 could deter some people from buying more than one Infocom adventure.

PERSONALITY TESTER

A 'not too serious' check on how you fit in with others around you

from Edward Leach

The original version of this program first appeared in the October 1984 issue of the English 'Practical Computing' magazine. It was written on a Research Machines 380Z (what ever that is) and required 36K of RAM. This Amstrad version requires about 14k.

Many changes had to be made to enable it to run on the Amstrad (graphics etc.), but of course, the important score marking arrays have been retained with the same values.

There are some 60 questions to answer with a simple Y or N. The answers fall into three categories - the first two being used for analysis purposes which produces both a textual and graph result - the third (L) determines the number of dishonest answers.

```

10 ON BREAK GOSUB 3810
20 REM * PERSONALITY TEST *
30 REM AMSTRAD CPC VERSION - SEPT '86
40 REM TED LEACH
50 DEFINT A-Z
60 DIM EXTROYES(15),NEUROYES(24),INTRODU
CTION$(23),INSTRUCTION$(15),QUESTION$(57
)
70 GOSUB 2370:GOSUB 150:GOSUB 390
80 GOSUB 290:OPTION$="ABCQ":GOSUB 1700
90 ON SELECT GOSUB 640,680,760,110
100 IF SELECT<>4 THEN GOTO 80
110 CALL 0
120 REM
130 REM * TITLE SCREEN *
140 REM
150 MODE 0:BORDER 6:INK 0,26:INK 1,6:INK
 2,0:INK 3,1:INK 4,9:INK 5,8:PAPER 0
160 FOR SCR1=2 TO 20 STEP 2:PEN 3:LOCATE
  SCR1-1,1:PRINT CHR$(224);:PEN 1:LOCATE
  SCR1,1:PRINT CHR$(225);:NEXT SCR1
170 FOR SCR4=2 TO 24 STEP 2:PEN 3:LOCATE
  20,SCR4:PRINT CHR$(224);:PEN 1:LOCATE 2
  0,SCR4+1:PRINT CHR$(225);:NEXT SCR4
180 FOR SCR6=19 TO 3 STEP -2:PEN 3:LOCAT
  E SCR6,25:PRINT CHR$(224);:PEN 1:LOCATE
  SCR6-1,25:PRINT CHR$(225);:NEXT SCR6
190 FOR SCR2=25 TO 3 STEP -2:PEN 3:LOCAT
  E 1,SCR2:PRINT CHR$(225);:PEN 1:LOCATE 1
  ,SCR2-1:PRINT CHR$(224);:NEXT SCR2
200 LOCATE 3,12:PEN 2:PRINT "PERSONALITY
  TEST":LOCATE 4,14:PRINT "PRESS ANY KEY"

210 LOCATE 10,3:PEN 4:PRINT CHR$(199):CH
  R$(200):LOCATE 10,4:PRINT CHR$(201):CHR$
  (202):LOCATE 6,6:PRINT "INTROVERT?"
220 LOCATE 10,20:PEN 5:PRINT CHR$(203):C
  HR$(204):LOCATE 10,21:PRINT CHR$(205):CH
  R$(206):LOCATE 6,23:PRINT "EXTROVERT?"
230 I=1:I2=3
240 WHILE INKEY$="":INK I,1:INK I2,6:T=I
  :I=I2:I2=T:FOR TI=1 TO 200:NEXT TI:GOTO
  240:WEND
250 INK 1,6:INK 3,1:RETURN
260 REM
270 REM * MAIN MENU *
280 REM
290 MODE 1:PEN 3
300 LOCATE 13,10:PRINT "A. INTRODUCTION.
  "
310 LOCATE 13,12:PRINT "B. INSTRUCTIONS.
  "
320 LOCATE 13,14:PRINT "C. PERSONALITY T
  EST."
330 LOCATE 13,16:PRINT "Q. QUIT PROGRAM.
  "
340 LOCATE 13,18:PRINT "YOUR OPTION ?"
350 RETURN
360 REM
370 REM * SET UP SCORE ARRAYS ETC *
380 REM
390 RESTORE 2500
400 FOR EY=1 TO 15:READ EXTROYES(EY):NEX
  T EY
410 FOR EN=1 TO 9:READ EXTRONO(EN):NEXT
  EN
420 FOR NY=1 TO 24:READ NEUROYES(NY):NEX
  T NY
430 FOR YL=1 TO 3:READ YESLIE(YL):NEXT Y
  L
440 FOR NL=1 TO 6:READ NOLIE(NL):NEXT NL
450 REM
460 REM * SET UP INSTRUCTIONS & INRODUCT
  ION *
470 REM
480 FOR INTROD=1 TO 22:READ INTRODUCTION
  $(INTROD):NEXT INTROD
490 FOR INFORM=1 TO 15:READ INSTRUCTION$
  (INFORM):NEXT INFORM
500 REM
510 REM * SET UP QUESTIONS & GROUPNAMES
  *
520 REM
530 FOR QUESTNUM=1 TO 57:READ QUESTION$(
  QUESTNUM):NEXT QUESTNUM
540 FOR P=1 TO 8:READ GROUP$(P):NEXT P
550 REM
560 REM * SET UP EXPLANATION OF SCORES *
570 REM
580 FOR EXE=1 TO 7:READ EXPLAIN$(EXE):NE

```



```

XT EXE
590 FOR EXN=1 TO 10:READ EXPLAN$(EXN):NE
XT EXN
600 RETURN
610 REM
620 REM * INTRODUCTION *
630 REM
640 CLS:LOCATE 10,1:PEN 1:PRINT "** PERS
ONALITY TEST **"
650 FOR INTROD=1 TO 21:LOCATE 1,INTROD+2
:PEN 2:PRINT INTRODUCTION$(INTROD):NEXT
660 PRINT:PEN 1:PRINT INTRODUCTION$(22)
670 CALL &BB18:RETURN
680 REM INSTRUCTIONS
690 CLS:PEN 3:LOCATE 15,2:PRINT "INSTRUC
TIONS"
700 FOR INFORM=1 TO 14:LOCATE 1,INFORM+3
:PEN 2:PRINT INSTRUCTION$(INFORM):NEXT
710 PRINT:PEN 3:PRINT INSTRUCTION$(15)
720 CALL &BB18:RETURN
730 REM
740 REM * QUESTIONS SCREEN *
750 REM
760 MODE 1:BORDER 1
770 WINDOW #1,1,40,5,7 'Question Window
780 PEN 2:LOCATE 1,2:PRINT"Question "
790 LOCATE 20,2:PRINT"Time:   Secs"
800 PEN 3:LOCATE 1,3:PRINT STRING$(40,95
)
810 LOCATE 1,8:PRINT STRING$(40,95)
820 LOCATE #1,7,1:PEN #1,3:PRINT #1,"Ple
ase type your answer."
830 LOCATE #1,7,2:PRINT #1,"Type 'Y' for
YES, 'N' for NO."
840 LOCATE #1,7,3:PRINT #1,"Press Any
Key To Start."
850 LOCATE 12,11:PRINT "YOUR ";:PEN 1:PR
INT "E ";:PEN 3:PRINT "SCORE IS ";
860 LOCATE 12,13:PRINT "YOUR ";:PEN 1:PR
INT "N ";:PEN 3:PRINT "SCORE IS ";
870 LOCATE 12,15:PRINT "YOUR ";:PEN 1:PR
INT "L ";:PEN 3:PRINT "SCORE IS ";
880 LOCATE 5,17:PEN 3:PRINT "QUESTIONS N
OT ANSWERED ";
890 CALL &BB18:E=0:N=0:L=0:MISSQUEST=0:C
LS#1
900 REM
910 REM * ASK QUESTIONS IN TURN *
920 REM
930 FOR QUESTNUM=1 TO 57
940 PEN 1:LOCATE 9,2:PRINT QUESTION
950 PEN #1,2:PRINT#1,QUESTION$(QUESTION
):PRINT CHR$(7):T=0:DUR=TIME/300
960 ANSWER$=UPPER$(INKEY$):T=TIME/300-DU
R:LOCATE 25,2:PRINT T
970 IF T>=10 THEN CLS#1:PEN #1,1:LOCATE
#1,7,1:PRINT#1,CHR$(7);"Sorry, time's up
, let's go":LOCATE #1,7,2:PRINT#1,"on to
the next question!":MISSQUEST=MISSQUEST
+1:FOR DURATION=1 TO 2100:NEXT DURATION:
GOTO 1130
980 IF ANSWER$="" THEN 960
990 IF ANSWER$<>"Y" AND ANSWER$<>"N" THE
N CLS#1:PEN #1,1:PRINT#1,CHR$(7);"   Y
for YES, N for NO, REMEMBER!":FOR DURAT

```

```

ION=1 TO 2100:NEXT DURATION:CLS#1:PEN #1
,2:PRINT#1,QUESTION$(QUESTION):GOTO 960
1000 REM
1010 REM * MARK QUESTIONS/SET SCORE *
1020 REM
1030 FOR EY=1 TO 15:IF ANSWER$="Y" AND Q
UESTNUM=EXTROYES(EY) THEN E=E+1
1040 NEXT EY 'E SCORE
1050 FOR EN=1 TO 9:IF ANSWER$="N" AND QU
ESTNUM=EXTRONO(EN) THEN E=E+1
1060 NEXT EN 'E SCORE
1070 FOR NY=1 TO 24:IF ANSWER$="Y" AND Q
UESTNUM=NEUROYES(NY) THEN N=N+1
1080 NEXT NY 'N SCORE
1090 FOR YL=1 TO 3:IF ANSWER$="Y" AND QU
ESTNUM=YESLIE(YL) THEN L=L+1
1100 NEXT YL 'L SCORE
1110 FOR NL=1 TO 6:IF ANSWER$="N" AND QU
ESTNUM=NOLIE(NL) THEN L=L+1
1120 NEXT NL 'L SCORE
1130 LOCATE 29,11:PRINT USING"##";E:LOCA
TE 29,13:PRINT USING"##";N:LOCATE 29,15:
PRINT USING"##";L:LOCATE 29,17:PRINT USI
NG"##";MISSQUEST
1140 CLS#1:NEXT QUESTION
1150 IF E>20 THEN E=20
1160 IF N>20 THEN N=20
1170 IF MISSQUEST=57 THEN RETURN
1180 IF L<=5 THEN GOTO 1210
1190 LOCATE 2,19:PRINT "I don't think yo
u have been too honest"
1200 LOCATE 2,20:PRINT "have you?- The t
est relies on honesty!"
1210 LOCATE 7,25:PRINT "PRESS < RETURN >
TO CONTINUE."
1220 IF INKEY$<>CHR$(13) THEN 1220
1230 REM
1240 REM * EXPLAIN SCORE *
1250 REM
1260 CLS:CLS#1
1270 LOCATE 4,2:PRINT "Your E score wa
s ";E
1280 PEN 2:FOR EXE=1 TO 7:LOCATE 1,EXE+2
:PRINT EXPLAIN$(EXE):NEXT EXE
1290 LOCATE 4,11:PEN 1:PRINT "Your N s
core was ";N:PEN 2
1300 FOR EXN=1 TO 10:LOCATE 1,EXN+11:PRI
NT EXPLAN$(EXN):NEXT EXN
1310 IF INKEY$<>CHR$(13) THEN 1310
1320 REM
1330 REM * GRAPH MENU *
1340 REM
1350 MODE 1
1360 LOCATE 10,10:PRINT "A. EXTROVERT/IN
TROVERT."
1370 LOCATE 10,12:PRINT "B. NEUROTICISM/
STABILITY."
1380 LOCATE 10,14:PRINT "Q. QUIT MENU."

1390 LOCATE 10,16:PRINT "YOUR OPTION ?"
1400 OPTION$="ABQ":GOSUB 1700:ON SELECT
GOSUB 1470,1560,1430
1410 IF SELECT<>3 THEN 1350
1420 RETURN
1430 RETURN

```



```

1440 REM
1450 REM * GROUPVALUES 'E' *
1460 REM
1470 RESTORE 1650
1480 FOR EXIN=1 TO 7:READ GROUPVAL(EXIN)
:NEXT EXIN:GROUPVAL(8)=E
1490 REM
1500 REM * DRAW EXTROVERSION GRAPH *
1510 REM
1520 TITLE=1:GOSUB 1780:ERASE GROUPVAL:R
ETURN
1530 REM
1540 REM * GROUPVALUES 'N' *
1550 REM
1560 RESTORE 1660
1570 FOR NEST=1 TO 7:READ GROUPVAL(NEST)
:NEXT NEST:GROUPVAL(8)=N
1580 REM
1590 REM * DRAW NEUROTICISM GRAPH *
1600 REM
1610 TITLE=2:GOSUB 1780:ERASE GROUPVAL:R
ETURN
1620 REM
1630 REM * GROUPVALUES 'E' & 'N' *
1640 REM
1650 DATA 12.1,11.1,12.7,13.6,10.2,8.7,1
3.8
1660 DATA 9.1,10.0,10.6,8.3,14.0,15.2,13
.7
1670 REM
1680 REM * SELECT MENU OPTION *
1690 REM
1700 SELECT=0:WHILE SELECT=0:K$=INKEY$
1710 IF K$>" "THEN SELECT=INSTR(OPTION$,U
PPER$(K$))
1720 WEND:RETURN
1730 REM
1740 REM * DRAW GRAPHS *
1750 REM
1760 REM * BAR CHARTS *
1770 REM
1780 MODE 1:BORDER 26
1790 NUMOFBARS=8
1800 REM
1810 REM * LABELS AND VALUES *
1820 REM
1830 REM * TITLE *
1840 REM
1850 IF TITLE=1 THEN LOCATE 11,1:PEN 1:P
RINT "EXTROVERT";:PEN 2:PRINT "/";:PEN 3
:PRINT "INTROVERT"
1860 IF TITLE=2 THEN LOCATE 13,1:PEN 1:P
RINT "NEUROTIC";:PEN 2:PRINT "/";:PEN 3:
PRINT "STABLE"
1870 REM
1880 REM * SCALE AND DRAW *
1890 REM
1900 REM * HORIZONTAL AXIS *
1910 REM
1920 FOR X=1 TO NUMOFBARS
1930 MOVE 48,47:DRAW(NUMOFBARS*72+56),47
,2
1940 NEXT X
1950 REM
1960 REM * VERTICAL AXIS *

```

```

1970 REM
1980 MOVE 48,48:DRAW 48,368
1990 FOR Y=80 TO 368 STEP 32:PLOT 47,Y+1
:NEXT Y
2000 REM
2010 REM * LABEL VERTICAL AXIS *
2020 REM
2030 LABELSCALE=0:SCALE=2
2040 PEN 3:LOCATE 1,22:PRINT USING"##";L
ABELSCALE
2050 FOR Y=20 TO 2 STEP -2
2060 LABELSCALE=LABELSCALE+SCALE
2070 IF LABELSCALE>10 THEN PEN 1
2080 LOCATE 1,Y
2090 PRINT USING"##";LABELSCALE
2100 NEXT Y
2110 REM
2120 REM * DRAW BARS *
2130 REM
2140 FOR P=1 TO NUMOFBARS:PEN 3
2150 YRANKS=GROUPVAL(P)/(SCALE/2) 'SCALE
PER RANK
2160 BARSIZE=(22-YRANKS)+1
2170 FOR HEIGHT=22 TO BARSIZE STEP -1
2180 IF HEIGHT<=12 THEN PEN 1
2190 IF HEIGHT=22 THEN CHARS=1 ELSE CHAR
S=0
2200 IF HEIGHT=BARSIZE THEN CHARS=2
2210 LOCATE (P*4+3),HEIGHT
2220 IF CHARS=2 THEN PRINT CHR$(143);CHR
$(143);CHR$(223):GOTO 2250
2230 IF CHARS=1 THEN PRINT CHR$(143);CHR
$(143);CHR$(220) ELSE PRINT CHR$(143);CH
R$(143);CHR$(207)
2240 NEXT HEIGHT
2250 REM
2260 REM * PRINT GROUPNAMES *
2270 REM
2280 FOR GROUPNAME=1 TO LEN(GROUP$(P))
2290 LOCATE (P*4+2),(22-((LEN(GROUP$(P))
+1)-GROUPNAME))
2300 PEN 2:PRINT MID$(GROUP$(P),GROUPNAM
E,1)
2310 NEXT GROUPNAME:NEXT P
2320 LOCATE 10,24:PEN 2:PRINT "Press Any
Key For Menu"
2330 CALL &BB18:RETURN
2340 REM
2350 REM * REDEFINE CHARACTERS *
2360 REM
2370 SYMBOL AFTER 199
2380 SYMBOL 199,&A,&5F,&33,&7B,&BF,&1F,&
77,&AC
2390 SYMBOL 200,&50,&FA,&CC,&EE,&7D,&F8,
&EE,&35
2400 SYMBOL 201,&78,&3C,&5F,&F,&E,&5C,&3
C,&3C
2410 SYMBOL 202,&1E,&3C,&FA,&F0,&70,&3A,
&3C,&3C
2420 SYMBOL 203,&1F,&7F,&79,&FD,&EF,&DF,
&AF,&F7
2430 SYMBOL 204,&F8,&FE,&9E,&DF,&F7,&FB,
&F5,&EF
2440 SYMBOL 205,&FB,&7D,&7E,&1F,&F,&1F,&
7C,&FC

```



```

2450 SYMBOL 206,&DF,&BE,&7E,&F8,&F0,&F8,
&3E,&3F
2460 RETURN
2470 REM
2480 REM * SCORE ARRAY DATA *
2490 REM
2500 DATA 1,3,8,10,13,17,22,25,27,39,44,
46,49,53,56
2510 DATA 5,15,20,29,32,34,37,41,51
2520 DATA 2,4,7,9,11,14,16,19,21,23,26,2
8,31,33,35,38,40,43,45,47,50,52,55,57
2530 DATA 6,24,36
2540 DATA 12,18,30,42,48,54
2550 REM
2560 REM * INTRODUCTION DATA *
2570 REM
2580 DATA "The majority of people seem f
ascinated"
2590 DATA "by the concept of personality
testing,"
2600 DATA "perhaps because we are all in
terested in"
2610 DATA "our own personality. A QUESTI
ON/ANSWER"
2620 DATA "test giving an indication
of our"
2630 DATA "personality is not new, datin
g back to"
2640 DATA "the 1940's."
2650 DATA "A commonly used test, the
EYSENCK"
2660 DATA "personality inventory has h
ere been"
2670 DATA "adapted for use with the
AMSTRAD"
2680 DATA "computer. Questions are autom
atically"
2690 DATA "marked and your score worked
out and"
2700 DATA "explained immediately."
2710 DATA "A graph comparing your sco
re with"
2720 DATA "known scores of other social
groups is"
2730 DATA "then shown. These are the
GENERAL"
2740 DATA "POPULATION, UNIVERSITY STUDEN
TS, NURSES,"
2750 DATA "SALESMEN, ALCOHOLICS, FANAT
ICS and"
2760 DATA "FEMALE CONVICTS. Please do no
t take the"
2770 DATA "test too seriously as it is b
y no means"
2780 DATA "foolproof.," " PRESS ANY KEY
TO RETURN TO MENU"
2790 REM
2800 REM * INSTRUCTIONS DATA *
2810 REM
2820 DATA "Hello, I,m going to ask
you some"
2830 DATA "questions about yourself
."
2840 DATA "The answers will be used
to work"

```

```

2850 DATA "out an index of your per
sonality."
2860 DATA "The questions are about
how you"
2870 DATA "think, feel and act - you sh
ould try"
2880 DATA "to decide whether 'YES' or 'N
O' would"
2890 DATA "be the way you usually think
or feel"
2900 DATA "Please relax, and try t
o answer"
2910 DATA "with your first reaction
to each"
2920 DATA "question. Try to answer o
uickly,"
2930 DATA "just by typing Y for 'Y
ES', and"
2940 DATA " N for 'N
O'."
2950 DATA "You have TEN seconds for each
question."
2960 DATA " PRESS ANY KEY TO RETURN
TO MENU"
2970 REM
2980 REM * QUESTION DATA *
2990 REM
3000 DATA "Do you like a lot of exciteme
nt and
bustle about you?"
3010 DATA "Do you often have a restless
feeling
that you would like to do som
ething,
but don't know what?"
3020 DATA "Do you nearly always have a r
eady
answer when people talk to yo
u?"
3030 DATA "Do you sometimes feel happy,
sometimes
sad, for no particular reason
?"
3040 DATA "Do you usually stay in the ba
ckground at parties and get-togethers?"
3050 DATA "As a child, did you always do
as you
were told immediately, wit
hout
grumbling?"
3060 DATA "Do you sometimes sulk?"
3070 DATA "When you are drawn into a qua
rrel, do
you prefer to have it out
to being
silent?"
3080 DATA "Are you moody?"
3090 DATA "Do you like mixing with peopl
e?"
3100 DATA "Have you often lost sleep ove
r your
worries?"
3110 DATA "Do you sometimes get cross?"
3120 DATA "Would you call yourself happy
-go-lucky?"
3130 DATA "Do you often make up your min
d too late?"
3140 DATA "Do you like working alone?"
3150 DATA "Have you often felt listless
and tired
for no good reason?"
3160 DATA "Are you rather lively?"
3170 DATA "Do you sometimes laugh at a d
irty joke?"
3180 DATA "Do you often feel fed up?"
3190 DATA "Do you feel uncomfortable in

```



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anything but everyday clothes?"
3200 DATA "Does your mind often wander w
hen you are trying to attend c
losely to something?"
3210 DATA "Can you put your thoughts int
o words quickly?"
3220 DATA "Are you often lost in thought
?"
3230 DATA "Are you completely free of pr
ejudices of any kind?"
3240 DATA "Do you like practical jokes?"
3250 DATA "Do you often think of your pa
st?"
3260 DATA "Do you like good food very mu
ch?"
3270 DATA "When you get annoyed, do you
need someone friendly to talk to a
bout it?"
3280 DATA "Do you mind selling things or
asking for money for some good cause
?"
3290 DATA "Do you sometimes boast a litt
le?"
3300 DATA "Are you touchy about some thi
ngs?"
3310 DATA "Would you rather be at home o
n your own than at a boring party?"
3320 DATA "Do you sometimes get so restl
ess that you can't sit long in a chair
?"
3330 DATA "Do you like planning things c
arefully, well ahead of time?"
3340 DATA "Do you have dizzy turns?"
3350 DATA "Do you always answer a person
al letter as soon as you can after
you have read it?"
3360 DATA "Can you usually do things bet
ter by figuring them out alone than
by talking to others?"
3370 DATA "Do you ever get short of brea
th without having done heavy wo
rk?"
3380 DATA "Are you an easy going sort of
person, not bothered about having eve
rything just so?"
3390 DATA "Do you suffer from nerves?"
3400 DATA "Would you rather plan things
than do things?"
3410 DATA "Do you sometimes put off unti
l tomorrow what you ought to do today?"
3420 DATA "Do you get nervous in places
like lifts, trains, or tunnels?"
3430 DATA "When you make new friends, is
it usually you who makes the fir
st move, or does the inviting?"
3440 DATA "Do you get very bad headaches
?"
3450 DATA "Do you generally feel that th
ings will sort themselves out and come
right in the end somehow?"
3460 DATA "Do you find it hard to fall a
sleep at bedtime?"
3470 DATA "Have you sometimes told lies
in your life?"
3480 DATA "Do you sometimes say the firs

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```

t thing that comes into your head?"
3490 DATA "Do you worry too long after a
n embarrassing experience?"
3500 DATA "Do you usually keep yourself
to yourself, except with very cl
ose friends?"
3510 DATA "Do you often get into a jam b
ecause you do things without thinkin
g?"
3520 DATA "Do you like cracking jokes an
d telling funny stories to your friends
?"
3530 DATA "Would you rather win than los
e a game?"
3540 DATA "Do you often feel self-consci
ous when with superiors?"
3550 DATA "When the odds are against you
, do you usually think it worth taking
a chance?"
3560 DATA "Do you often get butterflies
in your tummy before an important occ
asion?"
3570 REM
3580 REM * GROUPNAMES *
3590 REM
3600 DATA GEN POPULATION,UNI STUDENTS,NU
RSES, SALESMEN,ALCOHOLICS,FANATICS,FEM CO
NVICTS,YOUR SCORE
3610 REM
3620 REM * EXPLAIN SCORE DATA *
3630 REM
3640 DATA " The E score is a measur
e of your"
3650 DATA "extroversion / introversion.
If your"
3660 DATA "score is above 10 you are pro
bably an"
3670 DATA "extrovert (easy-going, lively
and"
3680 DATA "gregarious, and a bit rest
less !)"
3690 DATA "Below 10 and you are more of
a intro-"
3700 DATA "vert (quiet, relaxed, a bit o
f a loner)."
3710 DATA " The N score is a measur
e of your"
3720 DATA "stability / neuroticism ! If
your N"
3730 DATA "score is below 10, you are fa
irly stable"
3740 DATA "Above 10 and you are rather n
eurotic !"
3750 DATA "This DOES NOT mean anything s
inister,"
3760 DATA "however, as the test is by no
means"
3770 DATA "failsafe!"
3780 DATA " Press the <PFTUPN> key when
you are"
3790 DATA " ready to see a chart compar
ing your"
3800 DATA " scores with those of other
people."
3810 MODE 2: PEN 1:LIST

```


What makes LOCOMOTIVE run?

A second look by Petr Lukes

In the April 1986 issue we had a look at the way the editor stores BASIC statements, in a form suitable for execution by the interpreter. With the extension of the program we can now look at the storage of simple variables, both within the program lines and in a table immediately following the program area.

The operating system uses certain locations in the memory to store pointers to the start of the program and the start of the storage of variables. The addresses which initialise the variables prog, scalar, and array, apply to version 1.0. Later versions may use different locations, and while I expect that MALLARD will use a very similar form of storage, the pointers will be in a very different place. Perhaps an owner of a 6128 and a PCW will investigate and advise.

This time we will have a look at scalars, that is single-valued variables; arrays, which are a collection of values referenced by a single name, will be covered later.

Run the program at the end of this article and stop when line 30 is displayed.

Line 20 will appear as hex bytes 0d 00 00 6e 61 6d e5 ef

Line 30 as 0d 08 00 6e 61 6d e5 ef . .

Line 20 was not executed, and it shows how the editor stores the variable in the line; in line 30 the interpreter has established storage for the value, and saved its offset into the variable table.

To generalise, the reference to a variable in the BASIC line is stored in the format t1 o1 oh n a m e + 128 ef, where t1 is the type of the variable, o1 and oh are the offset into the table in the lsb, msb format (i.e. $\text{offset} = \text{o1} + \text{oh} * 256$), name is stored as entered except that the last character

has bit 7 set (i.e. 128d added to it); ef is the token for the equal sign, which in this case means "store the following value in the memory referenced by name".

First the t1 byte: edit line 20 to name!=1, and the byte will appear as 04. Both 04 and 0d indicate that the variable is real, the only difference being the explicit declaration in 20 as opposed to the default declaration in line 30. Now add line 5 DEFINT n, and edit line 20 to name%=1. The type bytes will now appear as 02 and 0b. If we change line 5 to DEFSTR n, change line 20 to name\$="1" and line 30 to name="1" the type bytes will be 03 and 0c respectively.

In all these cases the offset into the table will remain the same, because the length of the variable name is the same.

We can now proceed to the dump of the scalars and see how the variable is stored in the table. With name still defined as string, the dump shows it stored as: N A M E+128 TT 11 al ah. Name is converted to upper case, with 128 added to the last character. For strings, the type byte tt is 02 (as opposed to 03/0c in the line). The length is given by 11, 01 in our case. The address, given by al+ah*256(=019Fh), points to the first character of the string.

To show integers, change line 5 back to DEFINT n, and in line 30 enter name=&abcd. In the table, type will be 01 (as opposed to 02/0b in the line), and the value (&abcd) will be stored as CD AB, in the same order as in the line.

Now we go back to reals. Delete line 5, and change line 30 to name=.1 The table type byte will be 04, and the value both in the line and in the table will be stored in five bytes. Storage of

real numbers is a subject too complicated to cover here.

So far we used unsigned numeric values, implicitly positive. Negative numbers will have the minus sign stored as f5 in the line (plus sign is indicated by f4). The real storage uses one bit to indicate a negative value, while a negative integer is stored as 65536+value: -1 will be stored as 65535=FFFFh.

The treatment of DEFINed FUNCTIONS can be discovered by a similar process.

This exercise can be used to deduce some rules for saving memory. Firstly, use integer variables rather than reals, where possible (i.e. if the values fit in the range -32768 to +32767): each one saves three bytes in the store.

Adventure programs generally have large amounts of text stored as DATA and read into one or more arrays. This means that each string uses up memory in the program area and again in the string store. A better solution would be to read the text into one array as needed, say room by room, although this can lead to delays due to "garbage collection", clearing out of abandoned strings. The delays can be minimized by deliberately invoking the garbage collection by PRINT FRE("") while waiting for a response.

An alternative would be to initialise each array element in the program lines, e.g. r\$(0)="Introduction.". The garbage collection problem would be avoided, but there is the overhead of extra typing and the extra bytes in each line to reference the array element and enclosing the string.

The next instalment will look at the storage of arrays and some odd bits and pieces.


```

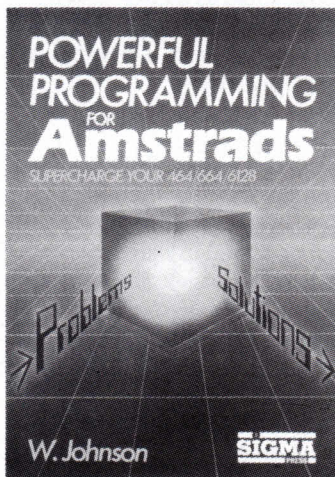
10 GOTO 30
20 name=1
30 name=1
9000 id$="LOCO2 LKS 860809":MODE 1
9010 DEF FNadd(s)=PEEK(s)+PEEK(s+1)*256
9020 prog=FNadd(&AE81)'start of prog
9030 PRINT CHR$(24)"Locomotive BASIC 1.0
  on AMSTRAD CPC464":PRINT id$CHR$(24)
9040 s=prog+1:a=@id$:v=FNadd(a+1)
9050 WHILE s<v
9060 Le=FNadd(s):Ln=FNadd(s+2)
9070 PRINT:PRINT USING"Le#### Ln#### St
  art &h";Le;Ln;HEX$(s,4)
9080 FOR b=s TO s+3:c=PEEK(b):PRINT HEX$(
  c,2)CHR$(1)CHR$(c)";:NEXT b:PRINT
9090 FOR b=b TO s+Le-1:c=PEEK(b):PRINT H
  EX$(c,2)CHR$(24)CHR$(1)CHR$(c)CHR$(24)"
  ";:NEXT b:PRINT
9100 s=b:WEND
9110 real=9E+37:r=@real-1
9120 type$=CHR$(1)+CHR$(2)+CHR$(4)+"ABD"
  'valid variable types
9130 array=0:varend=0'define remainig va
  riables
9140 scalar=FNadd(&AE85)'end of prog,sta
  rt of scalars
9150 array=FNadd(&AE87)'end of scalars,s
  tart of arrays
9160 varend=FNadd(&AE89)'end of arrays,s
  tart of free memory
9170 PRINT:PRINT"Dump of scalar table"
9180 s=scalar+2:v=array-1

```

```

9190 FOR a=s TO v:c=PEEK(a):PRINT HEX$(c
  ,2)CHR$(24)CHR$(1)CHR$(c)CHR$(24)";:NE
  XT a:PRINT
9200 WHILE INKEY$>"":WEND:PRINT"Press a
  key":WHILE INKEY$="":WEND:MODE 2
9210 PRINT"List of scalars"
9220 WHILE s<v
9230 WHILE PEEK(s)<128:PRINT CHR$(1)CHR$(
  PEEK(s));:s=s+1:WEND:PRINT CHR$(1)CHR$(
  PEEK(s)XOR 128),:s=s+1:PRINT USING" :off
  set &h";:HEX$(s+2-scalar,4);
9240 c=PEEK(s):a=INSTR(type$,CHR$(c)):ON
  a GOTO 9250,9260,9280,9290,9300,9310:PR
  INT"Invalid type":STOP
9250 PRINT USING"integer = &h";HEX$(FNad
  d(s+1),4):s=s+5:GOTO 9330
9260 a=FNadd(s+2):PRINT USING"string, ##
  # @ &h";PEEK(s+1);HEX$(a,4):s=s+6:IF a
  <scalar THEN PRINT"in prog memory"ELSE P
  RINT"in string store"
9270 GOTO 9330
9280 PRINT"real:";:FOR a=1 TO 5:b=PEEK(s
  +a):PRINT"HEX$(b,2):POKE r+a,b:NEXT a
  :PRINT"="real:s=s+8:GOTO 9330
9290 PRINT"integer";:GOTO 9320
9300 PRINT"string";:GOTO 9320
9310 PRINT"real";
9320 PRINT USING"FN @ &h";HEX$(FNadd(s+
  1),4):s=s+5
9330 WEND

```



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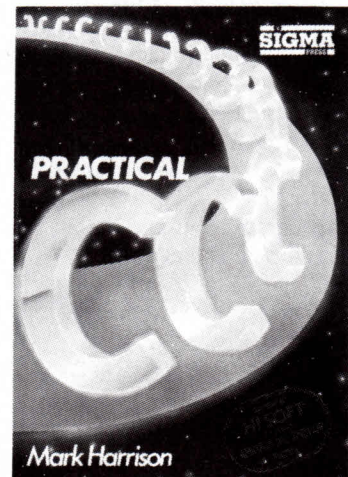
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Practical C is fully approved by Hisoft, a leading UK supplier of the C language.

See Page 63 for Details on how to Order

ADVENTURER'S ATTIC

by Philip Riley

As promised, I now provide the encode decode utility program. (You'll need to read the article on Page 61 of the December '86 issue to understand what is going on!). But before I start with a description of the program there is one point that you must remember - you must map out your adventure using the same style that I explained in the July '86 issue (and that's on Page 24).

Now onto the program, and first, the commands that are available to you when you run the program. The first thing you will be presented with is the question "How many locations?". In the case of the map in the July edition the answer to this would be 9. You are also told to type 0 if you have already defined the locations. Ignore this for the time being. To get the feel of the program don't worry about mapping out a full adventure and typing it in, just type in any number and type in a few sentences.

When you have got past the first question you will be in the main loop. Here, you have several options to choose from. We will work our way through them one at a time.

You will notice the words **LOCATION NUMBER 1** at the top of the screen. Now press the 'down cursor' key and the words **LOCATION NUMBER 2** will replace the previous message. You can in fact move up and down the locations using the up and down cursor keys. You can also move up and down in groups of ten by pressing the left and right cursor keys. One point to note is that the program will not let you go below description 1 or above the maximum amount of descriptions that you defined at the beginning of the program.

Now that you can move up and down the (currently blank) location descriptions you will want to be able to type in your descriptions. Go back to **LOCATION NUMBER 1** and type **C** and you will be presented with the words **INPUT SENTENCE**. So away you go and type in your description. Make sure that the input is no longer than about 250 characters or you will get a string length error. We will look at inputting longer strings next. When you are happy with your description press **ENTER** and the program will do the rest. (Just what the program does do will be looked at later.) You will now be presented with the words **LOCATION NUMBER 2**, and if you go back to location 1 the program will print your description for you. If you are not happy with the description type **C** and start all over again. (If you hadn't already guessed it 'C' stands for **change** and it clears the coded string before you type in your description.)

The next command that we will look at is the **ADD** command. Type **A** and you will be asked to **INPUT SENTENCE** as before but this time the coded string will not be cleared and it will add the input onto the end of the location description that you happen to be on at the time.

Now type in **M**. This is the memory check. It will give you

two figures on the screen. The first is how much memory you have used. The program will then do a garbage collection and print another figure, this is the true amount of memory that you have remaining.

Typing in **S** will save the data to tape or disc and typing in **L** will load data in from tape or disc. The program does not allow you to choose your own name for the file to be saved or loaded, but you can put your own name into the save routines by editing lines 380 and 400.

One other point to note is that it is best to check the memory using the 'M' command at regular intervals. The program uses a lot of strings that can rapidly use up your free memory. If you run out of memory the computer will lock up on you and you will lose your data.

If at any time when in the main loop you hear a beep, do not worry, it is just the program telling you that you have typed in something wrong.

Now for a breakdown of the program itself:

Line 10	Initial set up of colours and DIMension array.
Lines 20-180	Secondary loop that checks through data and builds up dictionary.
Line 190	Input of required locations.
Lines 200-340	Main loop that checks for your command inputs.
Lines 350-370	Decoding routine
Lines 380-390	Save to tape or disc.
Lines 400-410	Load from tape or disc.
Line 420	Garbage collection and memory check

But what does it all do?

The main loop is pretty simple and won't really need any explanation. The Secondary loop is the most complex part of the program and is really the only part that needs explaining. It is to this part of the program that the computer jumps after you have typed in your location description.

The computer will make either one or two passes through the secondary loop depending on if the word is already in the dictionary or not. At this point I think it would be best if I explained how the dictionary works. First of all type in the following line:

```
FOR t=45 TO 55:PRINT lo$(t):NEXT <ENTER>
```

You should now be presented with a list of words all of which have been sorted into various strings depending on their length. At the beginning of each string is a number. This is the length of the individual words in the string. You may notice that the number is one higher than the length of the words, this is because the word also includes the space at the beginning. This group of words is the dictionary that the program has built up from your descriptions. Now type in the following.

```
FOR t=1 to 10:PRINT d$(t):NEXT <ENTER>
```

You will now have a lot of gobbledy gook printed on the screen. Believe it or not, the junk that is now on the screen is your location descriptions. This is what they look like in the encoded form. Each word in the description has been broken down into two ASCII characters. The first character is the string that the word is stored in and the second character is the position in that string that the word starts at.

Now for a close look at the secondary loop.

Line 20 asks for your input. After you have pressed <ENTER> lines 30 and 40 checks through your input for any

commas (,) and quotation marks ("). If any are found it changes them to other characters. The reason for this has already been explained in last month's column, so I will not explain it again. The program does not change these characters back again but it is a simple job to use the same routine in reverse to check through the dictionary and change them all back to normal.

Lines 50 to 60 check through your input until it has found one complete word (it finds words by looking for spaces). When a word has been found it moves onto lines 70 and 80 where it checks the numbers at the beginning of the dictionary strings (lo\$(n)) until it finds one that matches the length of the string. It then checks through the string for a match to the word and if none is found continues on through the strings until it either finds a match, or runs out of used strings.

If a match is found the program will then jump to lines 160 to 180 where it starts to build up your encoded string. The program then returns to lines 50 and 60 where the next word is sorted. If no match is found for a particular word the computer will again search through the dictionary strings until it finds either a string containing words of the same length that still has room for more words, or until it finds an empty string, in which case it will start a new string for words of that length. It will then move onto lines 160 and 180 and add on the code for the word that it has just inserted.

The decoding routine is on lines 350 to 370 and it is this routine that you must put into your own program to decode your strings. This small routine merely moves along a coded string (d\$(n)) two characters at a time and picks out the correct words and prints them onto the screen.

If you break out of the program do not rerun the program or you will lose all of your data. Type in GOTO 190 and ENTER and this will put you back into the main loop. This is one of the reasons that I put the zero into the first question, after running the program it allows you to skip a DIM statement and prevents an error from occurring. Type in 0 at the question on line 190 when jumping into the program.

Another point to remember is that the larger the dictionary becomes, the longer it takes to sort the words and insert them into the dictionary. Also if you wish to load your data into your own game use the loading routine on lines 400 and 410.

Using this system you should be able to write a 200 room adventure with fairly short descriptions or a 150 room adventure with fairly lengthy descriptions.

On closing, I would like to thank Geoff White, who provided me with the original listing that I have adapted into this utility.

```

10 co=1:INK 0,3:INK 1,24:BORDER 13:ca=1:
MODE 1:DIM lo$(255):GOTO 190
20 h=0:LINE INPUT"Input sentence ",py$:y
p$=" "+py$+" ":lm=FRE("")
30 ll=0:ll=INSTR(ypp$,""):IF ll=0 THEN 4
0 ELSE MID$(ypp$,ll,1)="@":GOTO 30
40 ll=0:ll=INSTR(ypp$,CHR$(34)):IF ll=0 T
HEN 50 ELSE MID$(ypp$,ll,1)=CHR$(252):GOT
O 40
50 q$="":FOR t=1 TO LEN(ypp$):IF MID$(ypp$
,t,1)=" " AND t<>1 THEN GOSUB 70
60 q$=q$+MID$(ypp$,t,1):NEXT:IF h=1 THEN
h=0:co=co+1:RETURN ELSE IF h=0 THEN h=1:
GOTO 50
70 FOR y=45 TO 255:IF VAL(LEFT$(lo$(y),2

```

```

))=LEN(q$) AND h=0 THEN GOSUB 90 ELSE IF
lo$(y)=" " THEN GOSUB 140 ELSE IF h=1 AN
D VAL(LEFT$(lo$(y),2))=LEN(q$) THEN GOSU
B 90
80 NEXT:RETURN
90 FOR z=3 TO LEN(lo$(y))STEP LEN(q$):IF
MID$(lo$(y),z,LEN(q$))=q$ THEN GOSUB 16
0
100 NEXT:IF LEN(lo$(y))>200 THEN RETURN
110 IF g=0 THEN lo$(y)=lo$(y)+q$:y=255:q
$=""
120 IF h=1 AND y<255 THEN RETURN
130 q$="":g=0:RETURN
140 IF LEN(q$)<10 THEN lo$(y)="0"+CHR$(L
EN(q$)+48)+q$:q$="":y=255:g=0:RETURN
150 lo$(y)="1"+CHR$(LEN(q$)+38)+q$:q$=""
:y=255:g=0:RETURN
160 IF h=0 THEN z=LEN(lo$(y)):g=1:y=255:
RETURN
170 d$(co)=d$(co)+CHR$(y)+CHR$(z+42):GOT
O 180
180 z=LEN(lo$(y)):g=1:y=255:q$="":RETURN
190 INPUT" Input locations required 1
to 998. 0 if already defined";
lo:IF lo=0 THEN 200 ELSE IF lo<1 OR lo>9
98 THEN CLS:GOTO 190 ELSE DIM d$(lo),yp(
lo):CLS:ol=lo
200 h=0:PRINT"LOCATION NUMBER ";co
210 IF a$<>" THEN a$=""
220 a$=LOWER$(INKEY$):IF a$="" THEN 220
230 IF a$=CHR$(240) AND co>1 THEN co=co-
1:GOTO 350
240 IF a$=CHR$(241) AND co<ol-1 THEN co=
co+1:GOTO 350
250 IF a$=CHR$(242) AND co>10 THEN co=co
-10:GOTO 350
260 IF a$=CHR$(243) AND co<ol-9 THEN co=c
o+10:GOTO 350
270 IF a$="a" THEN 340
280 IF a$="c" THEN d$(co)="":GOTO 340
290 IF a$="s" THEN 380
300 IF a$="l" THEN 400
310 IF a$="m" THEN 420
320 PRINT CHR$(7);"
"
330 GOTO 220
340 GOSUB 20:GOTO 200
350 CLS:PRINT"LOCATION NUMBER ";co:IF d$
(co)=" " THEN 210
360 jk=0:p$="":FOR t=1 TO LEN(d$(co))STE
P 2:x=ASC(MID$(d$(co),t,1)):y=ASC(MID$(d
$(co),t+1,1))-42:lw=VAL(LEFT$(lo$(x),2))
:p$=MID$(lo$(x),y,lw):IF jk=0 THEN p$=RI
GHT$(p$,LEN(p$)-1):jk=1
370 PRINT p$;NEXT:PRINT:GOTO 210
380 a=FRE(""):OPENOUT"addata.bin"
390 FOR t=45 TO 255:WRITE#9,lo$(t):NEXT:
FOR t=1 TO ol:WRITE#9,d$(t):NEXT:CLOSEOU
T:GOTO 200
400 OPENIN"addata.bin"
410 FOR t=45 TO 255:INPUT#9,lo$(t):NEXT:
FOR t=1 TO ol:INPUT#9,d$(t):NEXT:CLOSEIN
:GOTO 200
420 CLS:PRINT FRE(0);" ";a=FRE(""):PR
INT FRE(0):FOR t=1 TO 3000:NEXT:GOTO 350

```


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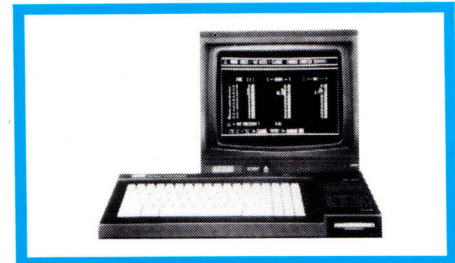
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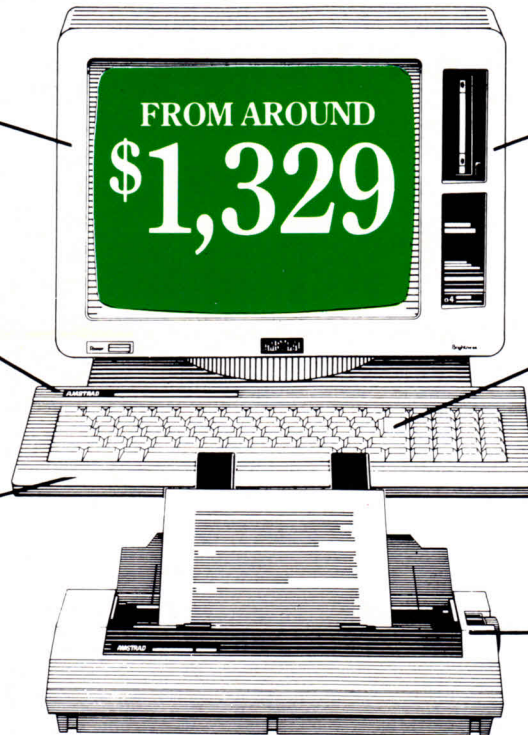
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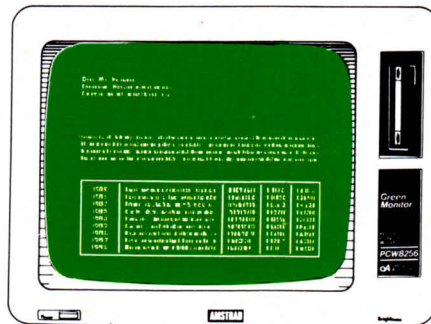
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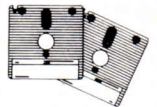
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