THE AMSTRAD USER

Issue No. 64 $4.50   May 1990

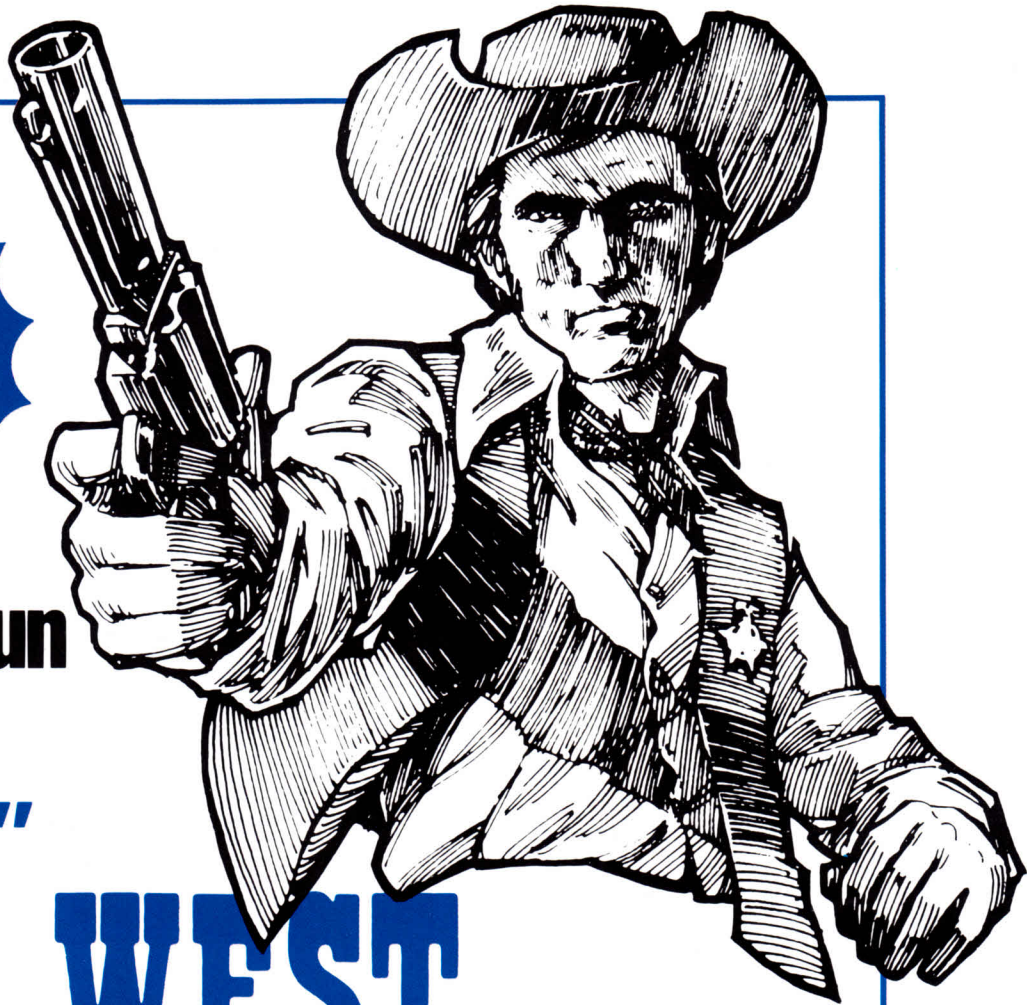## Blue Angels
FORMATION FLIGHT SIMULATION
ACCOLADE

- **New "Entertainment Centre" with one-stop games reviews + CPC monitor tester type-in + Assembly language**
- **Short cuts in LocoScript + "shelling" to Protext + major reviews on Genealogy program and Research software**
- **Reviews on AdLib Music Synthesiser Card, DTP and more**

FOR THE NOVICE & EXPERIENCED USER

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Issue No. 64 - May 1990

FRONT COVER: The elite echelon of US naval aviators flying FA-18s in formation, taken from Accolade's "Blue Angles" PC flight simulator.

For tape subscribers, CPC programs appearing in this month's magazine can be found at the following positions:

Side 1: EXPERT3 - 010 COLTEST - 105

Side 2: TEACHER3 - 010

Letters to the Editor

A monthly selection of your comments, hints and tips, advice and news - all shared for the benefit of Australasian Amstrad users.

I usually buy the Amstrad User every month because I've got a CPC464. It's a great computer magazine but on the "Pen Pals" section, I think you could improve it by printing at least a few sentences about each person. It's much easier to decide who to write to instead of just looking at the names and addresses and choosing the one which sounds the best. You could put "Pen Pals" on a page instead of an ad. or even better, you could put an extra page in the magazine. FANTASTIC! I don't want to sound too bossy or anything like that, but it would be nice to know other people who read this top magazine.

Jan, Casino, NSW.

Since December 89 I have been the owner of an Amstrad 2086. Being a first time computer user I have been quite baffled at times but feel I have progressed satisfactorily.

There is one problem however that mystifies not only me but everybody I have talked to. I have two Sierra games. Leisure Suit Larry 2 and Kings Quest IV. When I run these programs I get a message which reads "KERNSTUB: ERROR DURING BOOT" or nothing happens at all, causing the screen to "freeze up". When this happens the machine must be turned off then on again.

They will run however if another program such as M.S Works or the M.S. Flight Simulator, resident on the hard disc are run before hand.

I have tried these programs on another 2086 with the same result. It seems strange that this problem occurs only with the Sierra software. The question now is whether the problem lies with the software or the machine itself.

Have you or any of your readers ever encountered this problem? If so I would be grateful for an explanation.

Whilst I am a new reader I thoroughly enjoy your magazine and look forward to each new edition.

Geoff Ferguson, Beresfield, NSW

Sorry Geoff, but we cannot help. Any offers out there?

I was just reading through the January Issue (52) of Amstrad Action when I stumbled across the new "CD Games Pack" containing 30-35 games on CD.

They also say that it connects up through the joystick port to CD and also works for tape-based 464 users as well.

Anyway, I was wondering if this would be released in Australia soon, as well as the Magnum Light Gun, and will they be available throughout your mail order section, you could class them under "Peripherals" or something like that.

Lastly, how much would they cost if you did, the review type

Programming Competition

Our 100 line Programming Competition closed with a predictable 'last minute' rush of priority paid entries by post.

Supporting the Competition were:

Amstrad	Click
Computer Acc'ries	Dataflow
Dragon Technology	ECP
Line Manuf.	Mindscape
Ozisoft	Pactronics
Questor	Reckon
Dolphin Computers	Verbatim
and The Amstrad User magazine	

Our thanks are extended to the above sponsors.

The quality of the entries was much higher than in previous competitions which probably had something to do with the value of the prize - nearly $3000 worth of Amstrad computer plus software and accessories. It was more difficult therefore to choose an outright winner, but one finally emerged.

Our congratulations go to **Nikolai Ivanovic of Mount Gambier (SA)** for his "Hexer" entry.

Our thanks (and commiserations) to all the other entrants who took the time and trouble to test out their programming skills.

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thing in AA said around the price of a 16-Bt game CD that's around $50 to $60 Australian dollars. How much would you charge?

Damian Roy, Mansfield, VIC.

Release of the Magnum is a bit doubtful at the moment, but the CD games pack was covered in the news section of our March edition. Stocks have been ordered, but their arrival has been delayed (see news section in this edition). Prices on both have yet to be confirmed.

Being fairly new at computing, may I take this opportunity to thank you for the glossy magazine and helpful information you provide.

My only disappointment so far is with the PCW type-in pages of The Amstrad User. I find it hard to know whether the particular PCW type-in would be suitable for my PCW8256.

Would you kindly ask your con-tributors to make it clear if all PCWs will take the type-ins or only certain ones. Would I need a second drive or not? Do I start off with CP/M+?

To the experienced, the answers to these would appear obvious, but not to us beginners. Please contributors, do not assume everyone knows what you are talking about.

Thanks also to the Amstrad PCW Australia Group here in Sydney for their help and great newsletter.

C. Baxter
Ashfield NSW

I have an idea that you might consider using in your maga-zine. Why not have an article about all of the new games (in-cluding PC games!) introduced to your catalogue? These could be short, to the point descriptions of the games, with ratings based on graphics, sound, initial and long-

term appeal etc. This would give buyers an idea of the quality of their choices before they buy.

Keep up the good work.

Evan Bottcher, Cohuna VIC.

You'll be pleased to know that this month's edition contains a new "Entertainment Centre" section, which means we will be reviewing more CPC and PC releases from now on.

Here's a response to a TAU April 1990 Reader Query - L J May, Inglewood Vic.

Maybe I can help this person with their Genealogy program! I don't own a CPC6128 (my Amstrad is a PC2086/30) but I have had 5 years experience with other Amstrad computers such as PCW8256, PCW8512, PC20 and now PC2086/30 as well as the larger PC2286/40. I have been a computer operator for over 12 years, dabbling in basic programming for the last 5 years since discovering the wonderful Amstrads.

I am recently into Genealogy myself, thanks to one of my computer students (I teach in my spare time at home). With the help of the Microsoft WORKS database program, and by modifying special forms for records from various genealogy sheets, I have designed my own database for complete control of family records etc.

Of course, WORKS will not run on the 6128 (I presume). However if L.J. May has available any other equally powerful software, I can supply all the information needed to get their family records search underway. I will supply 'screen print' examples of my personalised forms design. If this is not enough, L.J. May can reply to me personally and I will be happy to re-design the database to their special liking. If I knew a bit more about the 6128, I would be able to help further, but I hope this assists and I look forward to hearing from L.J. May in the future.

Before I go I want to say how much I appreciate my own Amstrad and the help I get from my Amstrad dealer here in Sydney and also not to forget the speedy service in your mail order section. I subscribe yearly to the Amstrad User mag and read every page of it. Since falling into bad health (Osteoporosis) at only age 42, last year, I had to leave my job as a Secretary/Computer Operator because of it. But thanks to my own Amstrad computer, a whole new world has been opened up to me right here in my own home as I now teach anything and everything about computers and have made many new friends in the process. My bones don't allow me to do much else but thank God I can still use my computer!

Thank you for your time and I hope I can help someone.

Hilary E. Tipping, Revesby, NSW

I have a CPC6128 and I have three questions to ask:

1. What is going to happen to the date utility for CP/M+ users when the year 2000 arrives, as dating cannot be set at or beyond that year.

2. I also have 5.25" drive B: and I would like to know if there is any possible way that I can scan drive A: or B: to see if there is a disc in the drive and returning a value (number) from Basic. I try to use the INP & WAIT commands and I always seems to get confused and end up crashing everything. Could you help???

3. I would like to learn another language besides Basic, either Assembly or Machine code. Which would you recommend, and which software (books) would you recommend?

4. Your magazine is brilliant I look forward every month it comes to me. It supplies me with invaluable information even to a 15 year old.

5. Thank you.

Brian Mifsud, Lalor, VIC.

We can't answer your first question, but at least your computer

wont get any older will it? As far as question two goes, you can set up an error trap routine using ON ERROR GOTO and ask the drive for a directory. When it comes back with an error, the error handler will return control to your program.

The following is a cheat mode for the CPC game Exolon. Load the game as normal, but select the redifinition option from the main menu. Type in "Z O R B A" in that order, then redefine your playing keys.

That will give you infinite lives to complete each stage.

Nathan Ekwarin, Glenelg East, SA.

I wrote a letter which was published in you February edition about the game "The New Zealand Story". Well, I ended up getting swallowed by the whale. The idea is to dodge the little crosses (air bubbles) as they can bomb you. You don't have to get swallowed by the whale, you just shoot arrows or bombs into the whales mouth. The bombs kill the whale quicker. But watch out for those bubbles. Oh yeah, you have to get the bombs in the previous section.

Alison Conran, West Wollongong.

I got my CPC6128 over a year ago and since then I have been trying to find just one more person with a 6128 in TOWNSVILLE but to no avail, I have phoned all the numbers listed in the Townsville Amstrad User Club, and all have not been members for the last 18 months, some over 2 years, and don't know who has taken their place, one fellow told me that the club met on the 1st Wednesday and 3rd Tuesday, I was there on both these days, but there was no club.

Would you print my tale of woe, and ask if anyone in Townville could ring me and set me right on the meetings, as the list you printed changed years ago by what I can make out.

I have a few problems I can't get right, but an experienced user may get it right in no time, can't seem to find a shop in town that deals with Amstrad gear

Just wondering if I have made the right choice, but being a pensioner I haven't much choice but to stick with it, I can't afford to change now, but I need some help, and I am sure there are some who have had 6128s before they moved on so to speak.

With the 6128 I use a Epson LX400 Printer which is a 9 pin matrix, when I got the 6128 it was without a printer but there were some discs with it, one was a Print Master, it will set up okay on the screen but will not print out.

I am told that the program was set up for a 7 pin matrix printer and will not work on my 9 pin, which is fixed on 9, no switches to change it like some have, another reason where the advice of a user club would have been a great help, I could have got a printer that could be changed by a switch from 7,9 or 24 pin impact dot matrix.

You may print my address if you wish I may get some help from other States with the same problem I also have a lot of programs I don't know what to do with, and may be useful to others, or could show me how to use them, but no games.

I do hope you can help me.
R.T. Wilson, Townsville, Qld.

Printmaster runs under CP/M and is configured when you first purchase it for the Amstrad DMP2000. It comes with a facility to change the printer setting any time by selecting the printer set-up option.

Printmaster is imported by Dataflow who offer customer service on (02) 331-6153 between 9 and 5 weekdays.

All correspondence should be addressed to:
The Editor, The Amstrad User,
1/641 High Street Road,
Mt. Waverley, Vic 3149.
We regret we cannot give any personal replies.

OOPS!

CORRECTIONS TO CPC DATABASE TYPE-IN

Here are the amendments to part one of our CPC Database type-in featured in the March edition of our magazine. As our printer cannot print control codes, they have been drawn in by hand. They can be accessed by pressing CONTROL+X. We apologise for any inconvenience caused by the printer fault.

```
1400 PRINT"Select from:":PRINT:PRINT:PRINT"XEXdit a rec
ord":PRINT:PRINT"XDXelete a record"
1590                              *** (4B) DELETE A RECORD **
*
1600 CLS:PRINT"Select from:":PRINT:PRINT:PRINT"XMXove f
ollowing records up one":PRINT:PRINT"XLXeave a blank re
cord"
```

PEN PALS

If you want to join, write to "Pen Pals" care of The Amstrad User

Chris Bevan (CPC) 9 Blume Terrace Mount Gambier S.A. 5290	**Matthew Jones** (464) 45 Carlton Cresent Summer Hill, Sydney N.S.W. 2130	**Jason Sefton** (CPC464) RMB 2087 Lancaster Road Kyabram Vic. 3620	**Kenny Thomas** (CPC) 35 Doreen Street Christchurch 7 N.Z.
Craig Bridgman (6128) 22 Atkin Street Melton Vic. 3337	**Chris Maloney** (464 &PC) 20 Helena Court Rye Vic. 3941	**Andrew Shirzad** (CPC464) 16 Harkaway Rise Doncaster East Vic. 3109	**Daniel Treacy** (CPC6128) 25 Kegworth Street Leichhardt N.S.W. 2040
Deon Cameron 30 Ann Street Coffs Harbour, NSW 2450	**Stephen Phillipson** (CPC) 16 Julia Drive Bunbury W.A. 6230	**Shane Stevenson** (464) C/o P.O. Frederickton N.S.W. 2440	**Craig Westbury** (6128/PC) 30 Addison Road Hove S.A. 5048
Thorsten Gehrke (6128) 10 Dillon Street Redwood Park S.A. 5097	**Corey Powell** (CPC464) 24 Campbell Street Shepparton Vic. 3630	**Vasko Stoyanovski** (464) 14 William Street Preston Vic. 3072	**Jonathan Maddox** (PCW) 7 Wendo Street Armidale N.S.W. 2350
		Paul Tacey (CPC) RMB 5134 Shepparton Vic. 3631	**Reg Wilson** (CPC6128) 41 Albury Street Townsville Qld. 4812
Richard Jacquemin (464) 177 Railway Avenue Kelmscott W.A. 6111	**Damian Roy** (CPC464) PO Box 350 Mansfield Vic. 3722		**John McNeil** (464, PC-20) 1 Hawkins Street Chatswood Hills Qld. 4127

News Break

Our monthly update on the gossip, news, releases and the general Amstrad scene from both home and abroad.

MR. AMSTRAD VISITS AUSTRALIA

Alan Sugar, the Chairman and founder of the Amstrad empire announced in a jet-hopping visit to Sydney recently that Amstrad Australia will be widening its product range, investing more heavily in its dealer network and taking on larger business premises. He also reported that the Australian operation was "doing very well" and had contributed $58 million to the group's turnover last year (that 5% of the total Amstrad revenue). While Amstrad Australia already has nearly 21% of the personal computer market and is aiming for 25% this year, he claims that the Australian PC market was still some three to four years behind the UK.

A year or so ago, Amstrad were going through 'growing-pains' opening ten overseas subsidiaries very quickly and placing an enormous burden on expenses, overheads and inventory to keep them supplied. A three-year program to cut expenses, bring down overheads and reduce inventory was commenced. The result is that the original stock inventory of $650 million (6 months supply) was substantially reduced, solving the liquidity problems and clearing the way for new tighter systems to be introduced.

The recovery has been hailed by the pundits as quite remarkable and once again Amstrad is on the way to repeating the success so commonly reported in previous years. Profits for the six-month period ending December 1989 were around $60 million.

Alan Sugar also released details of the new Amstrad laptop (details below) - with back-lit screen, 40 megabytes of voice coil, fast-access hard drive, VGA graphics - in fact, the works!

He also promised that "there is a lot more to come" in terms of a new range of products which will take more of the share of the market.

NEW AMSTRAD LAPTOPS RELEASED

Over the next month, Amstrad will release the first shipment of new laptops - the Amstrad ALT-286 and ALT-386SX - and is seen as a major push into the higher end of the portable market. Both machines, running at 16MHz (switchable to 8 MHz), feature 1 Mb of RAM, a 3.5" 1.44 mb floppy drive with a connection for an additional drive, an 85-key keyboard with integrated numeric keys and 12 function keys and an external VGA monitor interface.

The ALT-286 includes a 20 mb hard disk, while the ALT-386SX carries 40 mbs. A backlit LCD screen (640 x 480 pixels) supports Hercules, MDA, CGA, EGA and VGA graphics - converting the latter 256-colour mode into 32 shades of grey.

Both also include one parallel port and two serial ports, facilities for a maths co-processor, a built-in battery charger and MS-DOS 3.30 operating system. The 286 will retail at $3999 and the 386SX at $4999. We'll put them through their paces once they have been released and give a full run-down in a month or so.

DELAY ON CPC CD

UK software house Codemasters, it seems, have fallen onto the irritating habit of announcing the release of titles long before they are actually ready for distribution. Advertisements for their revolutionary compact disk with 30 games started appearing in the UK press before Christmas, but a call to their offices last week (30th March) revealed that the CDs were at least another month away.

Unfortunately, the pre-advertising trait is the cause of numerous telephone calls and disappointed consumers, both here in Australia and (we are told) in Europe and the UK. As far as we can ascertain, software houses often use this ploy to gauge the response to a new product and gear-up (or down) the production schedule accordingly.

AMSTRAD RUMOUR

Although Amstrad will never reveal what goes on behind its closed doors in the UK, it looks pretty certain that they have already issued prototypes of a new CPC console unit to software developers (first reported in our January 1990 issue). The unit, similar in concept to the Sega Master System, is likely to be around £100 (or $250 if available in Australia) and may well be released at the Computer Entertainment Show at Earls Court in September.

Perhaps even more surprising, the CPC464 and 6128 models look like getting their graphics and sound enhanced to the same level as the new console as well as being fitted with a cartridge port for ROM-based games.

Whilst not exactly cheap, cartridge-based games will no doubt be more sophisticated as they allow software developers up to 512k to store their coding. The end result should be better gameplay, graphics and long sound tracks.

CPC AUSSIE RULES AND MORE

A number of new games for CPC owners have arrived from the UK including the long awaited **Australian Rules Football** from Again Again. Unfortunately its only available on tape, but it seems to contain most of the action you would expect to see at an oval.

From its success on the PC comes **The Duel - Test Drive 2** (tape and disk) with head-to-head racing against a Porsche 959 and a Ferrari F40. Both are capable of travelling over 330 kph and the game takes them through deserts, mountains or lush forests.

Firebird have developed a conversion to the Jaleco arcade **P47 Thunderbolt** (tape and disk) which features fast, horizontal scrolling action in a World War 2 US fighter. There are eight levels of extreme action. After the War (tape only) from Dinamic features Jungle Rogers in a race to reach a launching platform to escape a city ravaged by nuclear war. Heaps of action!

Bubble Bobble fans will be delighted to hear that **Rainbow Islands** (tape and disk) is now available and a quick look confirms the hype it has been getting.

Five compilations have also hit the shelves:

- **The Biz** (tape only from Ocean) features four popular hits: R-Type, Operation Wolf, Double Dragon and Batman the Caped Crusader.
- **Epyx Action** (disk and tape from US Gold) contains five games: 4x4 Off Road Racing, Street Sports Basketball, Impossible Mission 2, California Games and The Games - Winter Edition.
- **Thrilltime Gold 1** (tape only) with five games: Batty, Paper Boy, Turbo Esprit, Bomb Jack and Ghost & Goblins.
- **Thrilltime Gold 2** (tape only) with another five games: Airwolf, Scooby Doo, Battleships, Saboteur 1 and Frank Bruno's Boxing.
- Finally, for adventure freaks, **The Tolkien Trilogy** (tape and disk) carries the famous three: Lord of the Rings, The Hobbit, and Shadows of Mordor.

Adventure seekers will also be happy to see Level 9's last 8-bit offering called **Scapeghost**. It is available on disk and in dual format for PCs.

Budget fans will welcome six tape entries to the list: the Sega coin-op **Space Harrier** and from Codemasters, **Fantasy World Dizzy** (50 rooms to explore with dragons, wizards, volcanoes), **Little Puff, Frankenstein Jnr.** (take control of The Monster), **Wizard Willy** and **Olli & Lissa 3** (the Candlelight Adventure, even better than the original best seller) - all great fun and only $9.95 each.

Leaderboard Par 3 on disk is expected to be back in stock at the beginning of May along with a new tape **Jack Nicklaus Golf**.

PCW owners interested in upgrading their PCW8256 or 8512 by a further 512k should check with The Amstrad User (on 03 803 9661) as deliveries of **SCA Rampac** unit should arrive at the beginning of May. In addition, copies of the new **Micro Design 2** package should also arrive soon.

FOOLS RUSH IN

Most people who read the article "Speak of the Devil" in last month's News Break realised that it was a spoof to coincide with April Fools day. For the record, and to those still scratching their heads, none of it was true - it was a joke, really.

On the other hand, only one person rang to point out that we had printed the wrong year on the front cover.

It's the first time we've made such an error and our apologies go out to any readers (including newsagents across the country) who thought they were getting a back issue.

Colour tester

▶ ▶ ▶ *Check the colour definition and general condition of your CPC monitor with this handy little program by H.G.Piner.*

Colours looking a bit drab, picture starting to get a little bit wonky? Sounds like your monitor needs checking.

Tester is a useful utility program that draws a familiar test pattern style graphic in a number of ways according to the option selected.

The purity check should not show any hint of any other colour than the one selected.

The crosshatch checks should be linear. The circle should be round with no sign of colour fringing within the circle and a maximum of 1mm at the edges.

The colour bar check should be white, yellow, cyan, green, magenta, red and blue with the border being black.

The green bars running across the screen under the colour bars are nearly identical. Look for the vertical line in the centre where the two bars meet. The line is very difficult to see. If it's visible, then there is no problem. If not, then the monitor needs to be adjusted by a technician.

The sound check emits a tone through all three channels.
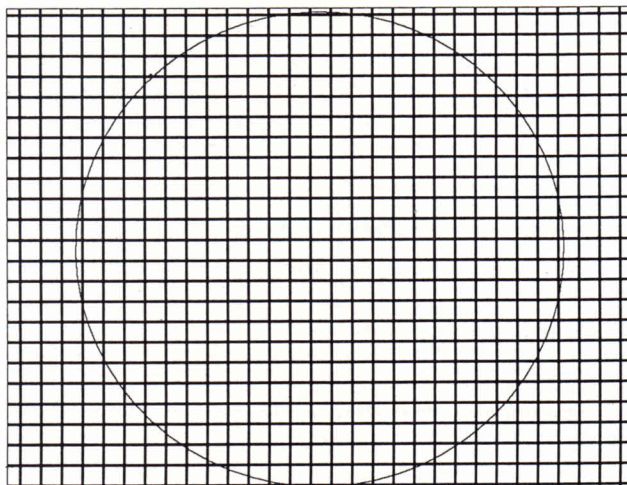
• Example of graphic.

```
10 REM AMSTRAD COLOUR TESTER
20 REM BY H.G.PINER
30 REM POKING DATA COURTESY OF GEOFF CAMP
40 MODE 2:CLS:DEFINT a-z
50 MEMORY &9FFF
60 FOR addr=&A000 TO &A128
70 READ byte$:b=VAL("&"+byte$):c=c+b
80 POKE addr,b
90 NEXT
100 MODE 1:INK 0,0:INK 1,26:INK 2,1:INK 3,3
110 BORDER 0:PAPER 2:PEN 1:CLS
120 LOCATE 18,1:PRINT"MENU":PRINT:PRINT
130 PRINT" 1. PURITY CHECK.WHITE"
140 PRINT" 2. PURITY CHECK.RED"
150 PRINT" 3. PURITY CHECK.GREEN"
160 PRINT" 4. PURITY CHECK.BLUE"
170 PRINT" 5. CROSSHATCH.WHITE"
180 PRINT" 6. CROSSHATCH.MAGENTA"
190 PRINT" 7. CROSSHATCH.YELLOW"
200 PRINT" 8. CROSSHATCH.CYAN"
210 PRINT" 9. COLOUR CHECK"
220 PRINT"10. SOUND CHECK"
230 PRINT:PRINT:PRINT" TO RETURN TO MENU ANYTIME":PRINT
" PRESS SPACE BAR":PRINT:PRINT
240 INPUT"ENTER SELECTION NO. ";Q$
250 IF Q$="1" THEN 280 ELSE IF Q$="2" THEN 290 ELSE IF
Q$="3" THEN 300 ELSE IF Q$="4" THEN 310 ELSE IF Q$="5"
THEN 320 ELSE IF Q$="6" THEN 330 ELSE IF Q$="7" THEN 34
0 ELSE IF Q$="8" THEN 350
260 IF Q$="9" THEN 530 ELSE IF Q$="10" THEN 270 ELSE 24
0
270 PAPER 0:PEN 1:INK 0,1:INK 1,24:INK 2,20:INK 3,6:MOD
E 1:CLS:BORDER 1:GOTO 810
280 BORDER 13:INK 1,13:PAPER 1:CLS:GOTO 900
290 BORDER 3:PAPER 3:CLS:GOTO 900
300 BORDER 9:INK 1,9:PAPER 1:CLS:GOTO 900
310 BORDER 1:PEN 2:CLS:GOTO 900
320 INK 1,26:A=1:GOTO 370
```

```
330 A=2:GOTO 360
340 A=1:GOTO 360
350 A=3:GOTO 360
360 MODE 0:INK 0,0:INK 1,24:INK 2,8:INK 3,20
370 BORDER 0:PAPER 0:PEN A:CLS
380 M=0
390 FOR I=1 TO 16
400 MOVE M,0
410 DRAW M,1027,A
420 M=M+40
430 NEXT
440 PLOT 638,0:DRAW 638,398
450 N=0
460 FOR I=1 TO 13
470 MOVE 0,N
480 DRAW 1280,N
490 N=N+33.2
500 NEXT
510 CALL &A000,320,200,195
520 GOTO 900
530 MODE 0:INK 0,0:INK 1,26:INK 2,24:INK 3,20:INK 4,18:
INK 5,8:INK 6,6:INK 7,2:BORDER 0:PAPER 0
540 FOR Y=1 TO 13
550 FOR X=1 TO 2:LOCATE X,Y:PEN 1:PRINT CHR$(143);:NEXT
560 FOR X=3 TO 5:LOCATE X,Y:PEN 2:PRINT CHR$(143);:NEXT
570 FOR X=6 TO 8:LOCATE X,Y:PEN 3:PRINT CHR$(143);:NEXT
580 FOR X=9 TO 11:LOCATE X,Y:PEN 4:PRINT CHR$(143);:NEX
T
590 FOR X=12 TO 14:LOCATE X,Y:PEN 5:PRINT CHR$(143);:NE
XT
600 FOR X=15 TO 17:LOCATE X,Y:PEN 6:PRINT CHR$(143);:NE
XT
610 FOR X=18 TO 20:LOCATE X,Y:PEN 7:PRINT CHR$(143);:NE
XT
620 NEXT Y
630 INK 8,18:INK 9,21:INK 10,10:INK 11,13:INK 12,14:INK
  13,19:INK 14,15:INK 15,3
640 FOR Y=14 TO 17
650 FOR X=1 TO 10:LOCATE X,Y:PEN 8:PRINT CHR$(143);:NEX
T
660 FOR X=11 TO 20:LOCATE X,Y:PEN 9:PRINT CHR$(143);:NE
XT
670 NEXT Y
680 FOR Y=18 TO 21
690 FOR X=1 TO 10:LOCATE X,Y:PEN 10:PRINT CHR$(143);:NE
XT
700 FOR X=11 TO 20:LOCATE X,Y:PEN 11:PRINT CHR$(143);:N
EXT
710 NEXT Y
720 FOR Y=22 TO 23
730 FOR X=1 TO 11:LOCATE X,Y:PEN 12:PRINT CHR$(143);:NE
XT
740 FOR X=11 TO 20:LOCATE X,Y:PEN 13:PRINT CHR$(143);:N
EXT
750 NEXT Y
760 FOR Y=24 TO 25
770 FOR X=1 TO 11:LOCATE X,Y:PEN 14:PRINT CHR$(143);:NE
XT
780 FOR X=11 TO 20:LOCATE X,Y:PEN 15:PRINT CHR$(143);:N
EXT
790 NEXT Y
800 CALL &A000,320,200,195:GOTO 900
810 MODE 0:CLS:LOCATE 4,13:PRINT"CHANNEL 1."
820 SOUND 1,284,300,7
830 FOR X=1 TO 3000:NEXT
840 CLS:LOCATE 4,13:PRINT "CHANNEL 2."
850 SOUND 2,284,300,7
860 FOR X=1 TO 3000:NEXT
870 CLS:LOCATE 4,13:PRINT "CHANNEL 3."
880 SOUND 3,284,300,7
890 FOR X=1 TO 3000:NEXT
900 IF INKEY$=" " THEN 100 ELSE 900
910 DATA FE,03,C0,DD,6E,00,DD,66
920 DATA 01,22,11,A1,E5,C1,21,00
930 DATA 00,22,13,A1,22,17,A1,AF
940 DATA ED,42,22,19,A1,22,15,A1
950 DATA CD,11,BC,FE,02,20,10,3E
960 DATA 00,32,01,A1,32,DC,A0,32
970 DATA 09,A1,32,D4,A0,18,10,3E
980 DATA 3C,32,09,A1,32,D4,A0,3E
990 DATA 3D,32,01,A1,32,DC,A0,CD
1000 DATA CC,BB,ED,53,1B,A1,22,1D
1010 DATA A1,DD,6E,02,DD,66,03,DD
1020 DATA 5E,04,DD,56,05,CD,C9,BB
1030 DATA 3A,11,A1,2A,13,A1,BD,DA
1040 DATA 1F,A1,20,07,3A,12,A1,BC
1050 DATA DA,1F,A1,ED,5B,11,A1,2A
1060 DATA 13,A1,CD,EA,BB,ED,5B,11
1070 DATA A1,2A,17,A1,CD,EA,BB,ED
1080 DATA 5B,15,A1,2A,13,A1,CD,EA
1090 DATA BB,ED,5B,15,A1,2A,17,A1
1100 DATA CD,EA,BB,ED,5B,13,A1,2A
1110 DATA 11,A1,CD,EA,BB,ED,5B,13
1120 DATA A1,2A,15,A1,CD,EA,BB,ED
1130 DATA 5B,17,A1,2A,11,A1,CD,EA
1140 DATA BB,ED,5B,17,A1,2A,15,A1
1150 DATA CD,EA,BB,2A,19,A1,E5,C1
1160 DATA 2A,13,A1,29,09,23,22,19
1170 DATA A1,2A,13,A1,23,23,22,13
1180 DATA A1,2A,17,A1,2B,2B,22,17
1190 DATA A1,2A,19,A1,7C,B5,CA,60
1200 DATA A0,CB,7C,C2,60,A0,E5,2A
1210 DATA 11,A1,29,E5,C1,E1,AF,ED
1220 DATA 42,23,23,22,19,A1,2A,11
1230 DATA A1,2B,2B,22,11,A1,2A,15
1240 DATA A1,23,23,22,15,A1,C3,60
1250 DATA A0,00,00,00,00,00,00,00
1260 DATA 00,00,00,00,00,00,00,2A
1270 DATA 1D,A1,ED,5B,1B,A1,C3,C9
1280 DATA BB
```

Solving the mysteries

► ► ► *Assembly language isn't as complex as you may think.*
Joseph Elkhorne proves that it's the way to go.

This month, I thought we'd go back to assembly language a bit more. In looking over my columns, I note a fair bit of software review work has been done - perhaps more tutorial effort is required.

What do you think? Over the past 14 months, I've had two reader's comments (both favourable) - one in a face-to-face conversation, the other via BBS (thanks, Sandy). Meanwhile, I'll continue to waffle on.

Some people believe that machine/assembly language is inordinately complex. In the beginning, I felt the same way. Gradually, I began to see that there was a 'mystique' involved in the area that had nothing to do with difficulty.

More than few writers, still today, seem to believe that obscurity enhances their self-esteem: "If I make it appear fantastically complicated, people will believe I'm really smart!"

The axium I've developed in technical work is: You never understand a thing fully until you can explain to someone else, so that they understand it.

For those of you who still feel BASIC is easier than assembly, consider the following:

The 6128 manual lists 185 BASIC keywords.
The 8080 has 72 fundamental instructions.

Granted, the 8080 list shows 244 op-codes are used, including all variations - but they're only in five groups.

The five different groups of instructions:

Data transfer
Arithmetic
Logical
Branch
Control

Once you understand one MOV op-code, you'll comprehend the lot! It's as simple as LET A = B. That takes care of 63 op-codes.

Wait, you say, I don't even know what an op-code

is. It's simply the hexadecimal number that represents what the microprocessor must do.

Thus, 42 instructs the 8080 to move the contents of register D to register B. Unless you're a masochist, you don't program in hex directly. (You can do this with SID, in the Set bytes mode).

Instead, you use a mnemonic instruction in a text file - in this case, you'd say MOV B,D and the assembler would interpret this as 42. Inside the microprocessor, the bit pattern 0100 0010 would appear when the program was run. Whatever value had been in B is replaced by the value of D.

The source code (text file) takes the format of:

LABEL OPERATION OPERAND COMMENT

Here's an example, part of one of my earlier programs:

```
        ; program charaset - to generate the
        ; ASCII character set on screen until
        ; a key is pressed - 27 May 1987
        ;
bdos    equ   05h    ; CP/M system caller
conout  equ   02h    ; print a character from 'e' reg.
cstat   equ   0bh    ; get console (keyboard) status
        ;
        org   100h   ; starting address
start:  mvi   a,1fh  ; initial value
inloop: inr   a      ; becomes 'space'
```

LABEL MNEMONIC   COMMENT
consisting of
OPERATION OPERAND

We start with pertinent comments. (This is internal documentation). Each comment begins with a semi-colon. (A program.DOC or READ.ME file would represent external documentation - like user's notes, etc.)

Then we have some pseudo-ops. Oh, dear another new term. Well, it's only another type of instruction - but these are directives to the assembler program

itself, and do not generate machine code for the microprocessor.

The first three may make the program as such more readable. Certainly 'conout' is more humanly understandable than the value 02 for the console output function.

Next, we have another type of directive telling the assembler where the program should start. This is normally 100 hex in CP/M. Then the program itself begins.

The first word is a label. (Ideally, those equates would be shifted right in a proper listing. But the assembler recognises the EQU as a directive and doesn't confuse itself. I'm anticipating final form in the magazine...)

A label really refers to an address; the assembler will interpret this, saving you the trouble of working out where things go. Normally, labels are used for loops and subroutines. Since you don't have line numbers as in BASIC, you cannot say GOSUB 2000, for example.

Instead, you label your subroutine, and use the form CALL FIXUP. (I'm using upper case in text examples. The assembler doesn't really care which form it's in - as long as it's correct. When it's not, it'll tell you about it)!

Following the label is your actual instruction. The first one is MVI A,1FH and sets the accumulator (register A) to the hexadecimal value 1F. The assembler knows you want a hex number because the H tells it so.

If you forget the suffix, you'll end up with decimal. When you instinctively think decimal and enter data using SID, it interprets the numbers as hex - isn't it easy to get confused?

It's probably best to learn the redundant habit of suffixing ALL numbers you use: D for decimal, H for hex, B for binary and... but why would you use octal?

Anyway, the instruction is two-part: operation, and operand. MVI is what you do, and A is the one done to; in this case, it receives the value 1F.

Finally, a comment field. It's too bad assembler programs don't demand comments. Real programmers use plenty of comments. They know human memory is unreliable.

Six months down the track, you'll look at uncommented source code and say, "What does it all mean?" even if you wrote it yourself!

Even worse, if you have to modify a program written by one of the "She'll be right, mate," school of pretenders, your thoughts will turn toward mayhem and violence.

More likely than not, the programmer who never has time for the little touches like comments will have created a monster - a kludge of patches and inconsistent usages.

Such a so-called programmer would better be placed in a spaghetti factory. Cynically, I sometimes think that type believes the obscure technique leads to job security.

Let's close off with a little example to experiment on. We'll work by analogy with a loop in BASIC:

```
2000 REM print a series of numbers
2010 FOR value = 1 to 9
2020 PRINT value;
2030 NEXT
2040 END
```

and in assembly format, could be:

```
       org    100h
       mvi    a,31h       ; initialise value
loopy: sta    value       ;  and keep it safe
       mov    e,a         ; ready it for function
       mvi    c,2         ; console out function
       call   5           ; system call
       1da    value       ; retrieve
       inr    a           ;  and increase
       cpi    3ah         ; reached limit?
       jnz    loopy       ; no, do more
       ret                ; yes, finished
value  db     0
end
```

Though you usually wouldn't use END in a BASIC program, it is otherwise assumed to be after the last line. The END returns you to direct command mode in BASIC - and the RET returns you to the Command Control Processor in CP/M. (The end in the source code instructs the assembler program that all is done).

Now, the source code to do the same task may look more complicated than the BASIC. Don't panic. Let's see what happens here.

The ORiGin is simply the start address, analogous to the first line number in BASIC. Next, we declare a variable (just like some high-level languages) as a MoVe Immediate instruction, placing 31 hex (the ASCII numeral 1) in the accumulator.

The label loopy: signifies the start of the loop structure. Otherwise, you'd have to identify the address, and later work out the value to jump back. We include an instruction on the same line, which saves the accumulator contents to a memory location. We'll see why in a minute.

So, what's this function business? It's the user interface into the CP/M operating system. Essentially, this allows you to take advantage of the routines for screen display, keyboard and disc access, and other goodies.

Different hardware could have widely varying addresses for these routines. You don't have to know the specifics of the hardware implementation. Instead, you give the system a number and it vectors your request to the proper area of memory.

In the little example above, you might wonder about the 'keep it safe' comment. Once you create and debug your source file and get it to assemble and then run, import it into SID. A little inspection

will show you that the registers are 'trashed' when returning from the system call.

If you didn't preserve the current value of the character, the ComPare Immediate instruction wouldn't have much chance of ever seeing a finished loop value. As it stands, the program retrieves the safely saved value, increments it, tests for a match.

With no match, the Jump NonZero swings back to the address of loopy: and continues. On a match, execution falls through to the next following instruction, which in this case, returns to the CCP and user control.

The final instruction reserves memory for storage. In this case, it is a Define Byte directive. You can also have a Define Word for 16-bit values, like an address. What's more, you can use the Declare Storage variation:

buffer ds 80

to reserve a block of memory for such things as a stack. In simple examples like the above, we need not worry about that. But real programs don't make assumptions. We'll investigate the stack in future.

By the way, you have the option of inputting ASCII information in statements, too. Take this variation:

mvi e,'$'   ; load character to print

and you'll agree it's more understandable than 24h.

If you've wondered why we use BDOS rather than some other terminology, it is because of the structure of CP/M. Think of nested dolls. You, sitting outside of the machine, boot up the operating system. Immediately, your interface is the CCP, or Command Control Processor.

This tries to interpret what you enter on the keyboard. It then passes information to BDOS, which is the 'standard' heart of CP/M. The Basic Disk Operating System handles all system calls, not only those for disc operations.

We're still in the software domain. Only when BDOS relays command information further - to the BIOS, or Basic Input Output System - do we reach the hardware level. And the specifics can vary from machine to machine.

You really couldn't care less, at this point. As long as you know that Function 2 will print a character to the screen, your program should work on any CP/M computer, not only the Amstrad.

This is the beauty of an operating system like CP/M. You, the programmer, don't have to concern yourself with details like which port address to use, or where the screen memory is. Yes, you can get down to the BIOS level and you can even insist on writing code that takes advantage of the Z80 bells and whistles.

Looking back at historical development a moment, we find that the 8085 - the next step in micro evolution - simplified power requirements; and it added two new instructions to the repertoire.

Continuing with improvements, the Z80 used the rest of the op-codes remaining, and created a new table of multi-byte instructions. Now you have over 500 possibilities to play with. They're still in the same five groups, even.

What's been added are more powerful addressing modes, block operations, slightly different flag treatment, quicker date manipulation - and downward incompatibility.

By all means, write for the Z80 capability if it turns you on. Just remember that if you write The Great Australian Program, a lot of CP/M users would miss out. And enough of the soapbox.

I'll close with some comments on a different topic. Recently, I was given a legitimate 'evaluation copy' of two utility programs. Both are aids to playing the game of Tradewars, available on a number of bulletin boards.

Tbase+, historically the earlier, was written by Yuen Keen Ho, copyright 1989 and released to the Public Domain. Mapper31, presently a 'beta test' version, is a product from Josh Parris and is labelled 'Shareware'.

It's interesting that each of the authors acknowledges the other's efforts. Even more remarkable, the documentation both have provided is of a very high standard.

The sophistication of both programs is a tribute to the respective skills of the young programmers. When each completes his education, we could expect to see some serious applications of world class standard. Thanks, guys.

Coming up in future - reviews notwithstanding - we'll delve deeper into assembly programming. Some detail on the various system calls and application of more instructions can be anticipated. Live long and prosper! ■
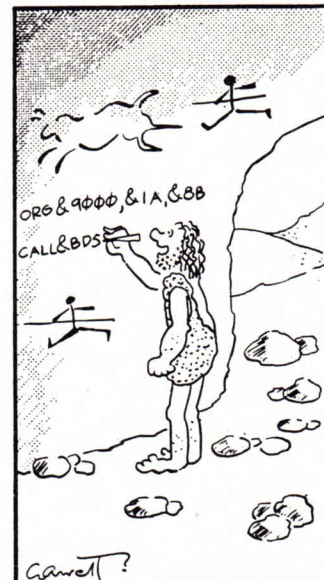
"THIS'LL CONFUSE 'EM IN THE FUTURE..."

IT'S SURPRISING THE TYPE OF PEOP.LE MAKING THE HEADLINES THESE DAYS.
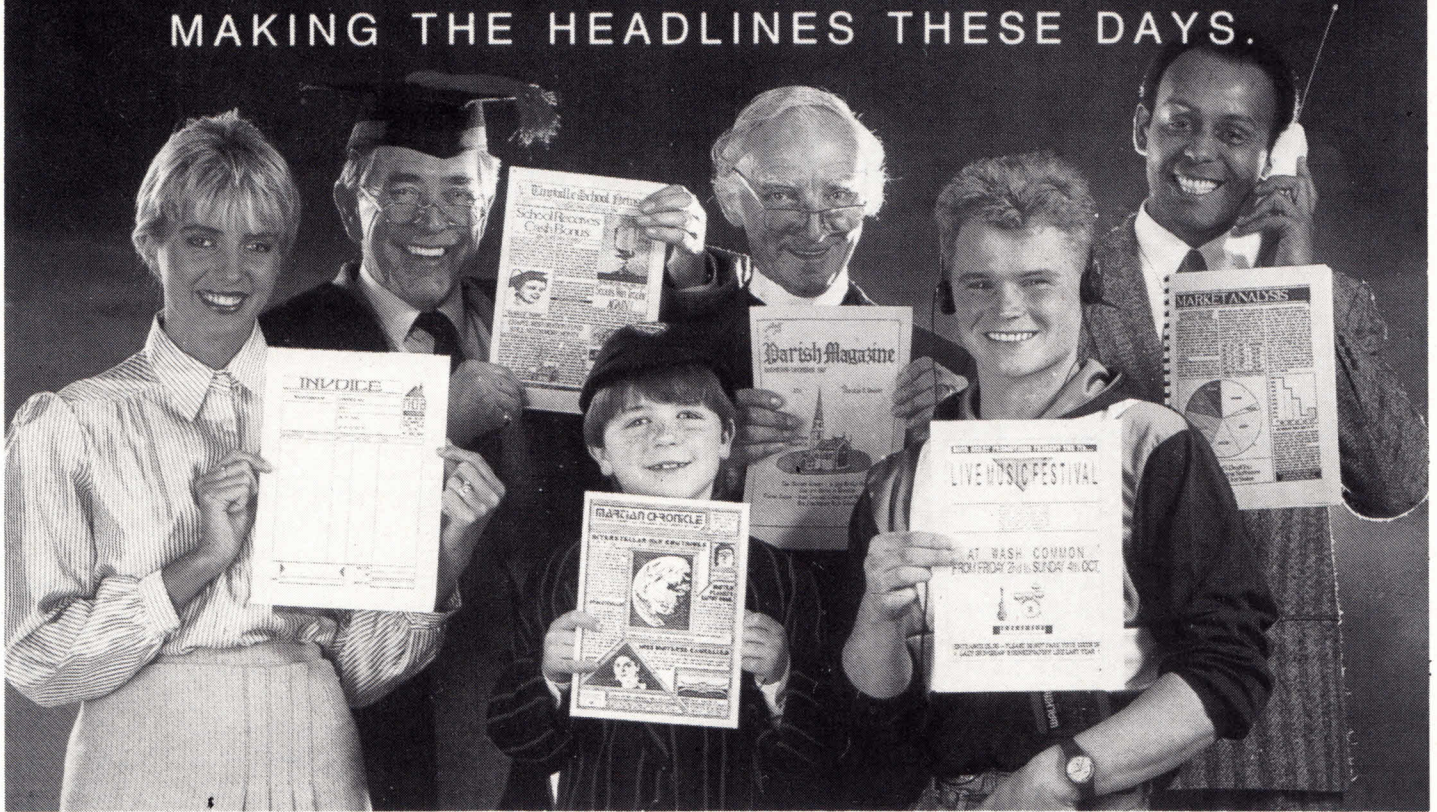
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Let's have no garbage !

Paul Gerard concentrates on "data validation" as a means of sorting possible garbage from user inputs.

One of the principle differences between a person and a simple (non-intelligent) computer program is the ability to discriminate between sensible input and nonsense. You have probably heard the old adage "Garbage in, garbage out" or GIGO - no program however intelligent, can make sense out of silly input, nor can any program completely forestall "garbage" (actually, if you think about it, neither can a person). However to make our program intelligent we have to try to simulate as far as we can the human ability to distinguish between what may make sense and what definitely doesn't - to cut down the garbage in, and therefore the garbage out. This is called data validation and is pretty standard nowadays - an "intelligent" program probably needs to go a bit further than most programs, as by definition it wants to be as independent as it can of external intelligence.

HAVE WE PRESSED THE RIGHT KEY?

There are several levels of this sort of thing - at the first level we want to make sure that the user presses a number key when we want a number, and a series of letter keys when we expect a word. If we ask for a yes or no answer we want to be able to ignore anything by a "Y" or an "N". Instead of trying to do this in a "here-and-there" way we manage the whole bit (for Structured Data as well as our expert system) with our input routine at lines 200-299. Any program you care to write can be made more intelligent by using something like this routine - if you want to find out more about how it works we built it up step by step early in the structured programming series that preceded this one - you may well like to review these articles (back copies available still if you missed them).

IS THE INPUT CONSISTENT?

At another level, an intelligent program needs to check that the information it is being given is consistent with what it already knows. We do this ourselves all the time of course - that's why the few first steps

are often the hardest when we start to learn about a completely new subject - we lack the framework of basic facts we need to make sense of the new "input", and become bewildered. What we do, and what our intelligent program will have to do, is run through what we already know, and fit the new information in. If we have a look at the long listing we typed in last month (at least I typed it in, you probably got it off last month's tape) we can see the beginnings of this sort of back checking.

Look again at lines 5132, 5135, and 5140. An algorithm describing the function of these three lines might run as follows:

```
if no input then end routine
else search entity file
if found then end routine
else search classification file
end routine
```

If we input a new entity (say, "TIGER") then our program tests its own stored data to ensure that we are not making nonsense of the whole thing by entering a new, possibly contradictory, set of attributes for that entity. It also checks that we have not already used "TIGER" as a classification (as we might have done, if we had entered the Balinese, Sumatran and Indian tigers separately first). If we have done so, then it simply adds an entry in the entity file that duplicates the classification entry.

DOES IT COMPUTE?

Another thing we want to guard against is logical inconsistency between items of data. For instance if a tiger is a kind of mammal, and a mammal is not a kind of reptile, then a tiger can logically not be a kind of reptile either. This consistency should be ensured by our use of classificatory codes, which symbolically represent the relationships we want to record - however the program and data as it stands can produce the odd hiccup, especially if we make a mistake in entering code numbers or letters. If you

entered "SPIDER" you may have been amused to see that the program seems to think that a spider must be a kind of insect, although this doesn't crop up when we ask for information after the entry is complete. Really, we want the program to make up its own codes - or at least to thoroughly check the ones we give it to make sure that they fit in with what is already "known". If we can work out an algorithm for this we can be sure that the computer will perform this task much more consistently than a human is likely to do.

The following new routine to be added to "TEACHER.BAS" means that we can now add up to ten new members to an already defined class and the program will allocate class numbers itself. This is still a bit on the rough side - eventually we will brush it up so that we can get it to insert new classes as well, and make classes of more or less indefinite size - and build a similar version that will classify our attributes!

```
8000 ' build new class no.
8010 newclass.finished=FALSE:class.top=2:class$(0)=SPAC
E$(40)
8015 MID$(class$(0),1)=classif$(0,1):j=LEN(classif$(0,1
))
8020 WHILE NOT newclass.finished
8030  CLS#3:CLS#1:LOCATE MAX(1,(35-entity.len)\2),10:PR
INT"Does ";:PEN 3:PRINT LEFT$(entity.name$,entity.len):
PEN 1
8035  LOCATE MAX(1,(21-LEN(classif$(1,class.top)))\2),1
2:PRINT" belong to class ";:PEN 3:PRINT classif$(1,clas
s.top);:PEN 1:PRINT" ?"
8040  GOSUB 500  ' yes/no
8050  IF yes THEN MID$(class$(0),1)=classif$(0,class.to
p):j=LEN(classif$(0,class.top)):confirmed=class.top:cla
ss.top=class.top+1 ELSE GOSUB 8100 ' find next digit
8060  IF INSTR(classif$(0,class.top),LEFT$(class$(0),j)
)<>1 THEN GOSUB 8200:newclass.finished=TRUE
8080  WEND
8090 RETURN
8100 ' skip irrelevant numbers
8110 i=1
8120 WHILE INSTR(classif$(0,class.top+i),classif$(0,cla
ss.top))=1
8130  i=i+1
8140 WEND
8150 class.top=class.top+i
8160 RETURN
8170 ' insert new classification
8175 ' recursive routine needed here !!
8177 PRINT"Can't do this bit yet !!!":t!=1500:GOSUB 700
8199 RETURN
8200 ' new class no.
8210 IF yes THEN final=TRUE ELSE final=FALSE
8230 WHILE final=FALSE
8240  CLS#3:CLS#1:LOCATE 2,10:PRINT"Is there an interme
diate class between"
8250  LOCATE MAX(1,(35-entity.len-LEN(classif$(1,confir
med)))\2),12:PEN 3:PRINT LEFT$(entity.name$,entity.len)
;:PEN 1:PRINT" and ";:PEN 3:PRINT classif$(1,confirmed)
;:PEN 1:PRINT" ?"
8260  GOSUB 500  ' yes/no
8270  IF NOT yes THEN final=TRUE ELSE GOSUB 8170 ' new
classification
8280 WEND
8300 ' find existing members of entity class
8310 found=TRUE:old.entity=0:n=0
8320 WHILE found
8330  found=FALSE
8340  GOSUB 1900:IF found THEN n=n+1:found(n)=entity.po
int(old.entity)
8350 WEND
8355 gap(0)=VAL(MID$(entity$(0,found(1)),j+1,1)):gap.sp
ot=0
8360 FOR i=1 TO n-1
8370  gap(i)=ABS(VAL(MID$(entity$(0,found(i+1)),j+1,1))
-VAL(MID$(entity$(0,found(i)),j+1,1)))
8380  IF gap(i)>gap(i-1) THEN maxgap=gap(i):gap.spot=i
8390 NEXT
8395 gap(n)=10-VAL(MID$(entity$(0,found(n)),j+1,1)):IF
gap(i)>gap(n-1) THEN maxgap=gap(n):gap.spot=n
8400 MID$(class$(0),j+1)=MID$(STR$(VAL(MID$(entity$(0,f
ound(gap.spot)),j+1,1))+maxgap\2),2):j=j+1
8410 entity$(0,entity)=LEFT$(class$(0),j)
8420 ERASE class$
8430 ' sort entities
8440 swop.flag=TRUE:stretch=count(1)+1:i=1
8450 GOSUB 11150
```

The only lines outside this routine that need changing to make this work are the following:

1. The following lines in the "sort" routine at line 11000 of "TEACHER.BAS" - substitute these for the existing code at this point (although you will notice that the main job is just changing line numbers). Cutting it up like this makes the routine a little more flexible, especially when we want to sort just one array.

```
11000 ' sort data ready for saving
11010 FOR i=1 TO 4
11030  swop.flag=TRUE:stretch=count(i)
11035  CLS#3:LOCATE 5,12:PRINT"Sorting data for "data.file$(i)
11040  GOSUB 11150
11120 NEXT
11130 RETURN
11150 ' bubble sort pass
11160 WHILE swop.flag
11165  swop.flag=FALSE
```
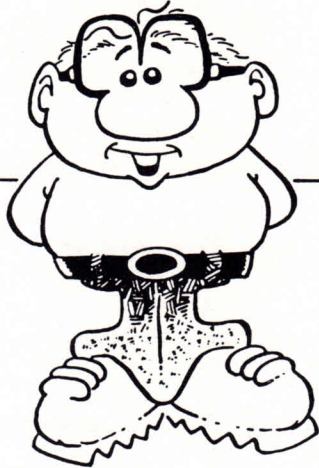
```
11170    stretch=stretch-1
11175    FOR k=1 TO stretch
11180       ON i GOSUB 11200,11300,11400,11500
11185    NEXT
11190 WEND
```

2. Finally line 1940 of "EXPERT", the operative line of the search for an entity by class number, now needs to be in the following form, so that it searches in strict class order.

```
1940   IF INSTR(entity$(0,entity.point(old.entity)),LEFT
$(class$(0),j))=1 THEN found=TRUE
```

When you have got the above in (a fairly manageable task for once) then test it by adding the following new animals: all members of the great cat family (panthera): Lion, Leopard, Cheetah and Jaguar.

If you carefully answer the series of questions the computer will ask (first tell it you DON'T know the class number) then each great cat should get a number in the correct range. The attributes unfortunately must still be classified "manually" - the following are suggestions:

For Lion enter "male has long mane", code "CM"
For Leopard enter "hides its kill in a tree", code "DBD"
For Cheetah enter "is the fastest running animal", code "LE"
For Jaguar enter "Lives in the jungle", code "HH"

If you want to add a few more attributes for each animal you might get a listing of the attributes file (just ask CP/M to "type aniattri.att"). In this form you will probably be able to follow the general pattern and give any new attributes your own codes - generally A,B and C stand for shape, form colour etc., D for diet, H for habitat, L for locomotion, R for reproduction, S for size, and T,U,V etc. for everything else. Similarly, you might want to add a few more animals - more "human animals" like the teenager, the editor, the parent etc. will work nicely (provided you don't put in more than ten) and can be quite fun when you retrieve them with the search routine! ∎

AMENDMENT TO EXPERT

Due to our printer's intense dislike for control characters, line 2095 of the expert system (Dec, issue 59), was a bit of a garbled mess.
This is how the line should have read:

```
2095   PRINT "X"STR$(choice)". "menu$(choice+start(men
u.number))"X"
```

The control characters were drawn in by hand, and can be accessed by pressing CONTROL+X. We apologise for any inconvenience caused by the printer fault

---

Returning to Protext

John Barlow looks at system swaps, making transfer between PROTEXT and CP/M a faster and simpler task.

Those of you who have been following this series will remember that one of the major reasons for my changing from LOCOSCRIPT to PROTEXT was the fact that the latter allowed me to access CP/M files without having to go through the tedious EXIT/REBOOT routine.

Since then, of course, one company has come up with a program which will enable such system swaps without having to sacrifice files held in memory. And, from all reports, FLIPPER and its upgrade FLIPPER II do the job admirably. But it came along too late for those who, like me, had already made the change.

In many respects I'm pleased I did make the change, though. Even with its few shortcomings such as its unreliable wordcount and the inaccessibility of its dictionary - PROTEXT is a great deal more powerful and versatile than any other word processing program on the market, and that's saying a mouthful.

THE HUMAN ELEMENT

We humans are a funny lot, though. The better things become, the more we expect.

In the old days, one would be quite happy to wait hours for someone to find a customer file or to come up with a copy of an invoice. We were even prepared to wait two to three days for a secretary working with a typewriter to come up with a finished letter or report. But, as soon as computers came on the scene, we expected miracles. We became impatient. Suddenly we wanted an instantaneous response. And in spite of the fact that Madam Chancellor often tells me that I'm an animal - usually a worm - I'm here to tell you that I'm no less human than the next person.

Although PROTEXT allows me to access a CP/M file or program with two-fingered ease by simply typing #<filename>, it does not allow me to re-enter PROTEXT as quickly.

The way I have things set up with my expanded 8256, everything I think I'll need is loaded across into memory on startup; leaving my data disc free for text files. By jumping from PROTEXT into, say, my database program, I am effectively left in A drive of CP/M when I quit that program. With all my restart files in memory, I must then either insert my Start of Day disc into the drive and type PROTEXT, or nominate drive M as the default drive, then type PROTEXT. The latter has been my preferred option.

But, being human (okay, and lazy), I wanted Joyce to do this for me.

After a great deal of trial and error - with more error than trial, I must admit, I came upon the solution.

IN SUBMISSION

During the creation of your PROTEXT Start Of Day disc a number of programs were carried over from your master CP/M disc. Among them was SUBMIT.COM. Another event that took place within the bowels of your computer during that initialisation process was the miraculous creation of a small but very important program called PROFILE.SUB. It is to this latter program we are now going to turn our attention.

After booting up PROTEXT, Load PROFILE.SUB; at which time the contents of that program - protext <startup - will be displayed in the top part of the screen (see figure 1).

Press ENTER (or STOP) to go into Edit mode then, after moving the cursor down to the beginning of the line below the existing message, type N: followed by a return. On the next line type, SUBMIT PRORETRN

```
PROTEXT  Document profile.sub    1K   Justify Off        Word-Wrap    ALT-H for Help
Page 1   Line 2   Col 1              No markers set                   Insert
L-------|-------|-------|-------|-------|-------|-------|-------|----R
protext <startup
```

```
PROTEXT v2.02 (c) Arnor 1986      Type HELP for Command info      Printer: PCW
a>I profile.sub
```

• Figure 1.

followed by another return. Next, switch to Command mode and save your revised PROFILE.SUB program (see figure 2).

It is important to remember that, at the time

```
PROTEXT  Document profile.sub    1K    Right-Justify        Word-Wrap      ALT-H for Help
Page 1    Line 2    Col 1              No markers set                      Insert
L--------|--------|--------|--------|--------|--------|--------|---R
protext <startup>
M:↵
submit proretrn↵
```

```
PROTEXT v2.02 (c) Arnor 1986        Type HELP for Command info        Printer: PCW
a)s
SAVE filename: profile.sub
a)█
```

• Figure 2.

PRORETRN.SUB is to be acted upon, you will be running in CP/M; hence the need for the colon after the drive change instruction, M. The colon is not required in PROTEXT.

At this stage, you don't have a SUBMIT program called PRORETRN, of course, so the next thing to do is create one. To do this, simply return to Edit mode where the text for PROFILE.SUB waits. Take the cursor to the beginning of the first line and delete it completely. In its place type PROTEXT; ensuring that it is followed by a return (if you have been following this series, you will now see why I like to have Tabs and Returns visible). Bring the cursor down to the beginning of the newly created blank line and delete it.

Switch back to Command mode and type, Save

```
PROTEXT  Document proretrn.sub    1K    Right-Justify        Word-Wrap      ALT-H for Help
Page 1    Line 1    Col 1              No markers set                      Insert
L--------|--------|--------|--------|--------|--------|--------|---R
protext↵
M:↵
submit proretrn↵
```

```
PROTEXT v2.02 (c) Arnor 1986        Type HELP for Command info        Printer: PCW
a)s
SAVE filename: proretrn.sub
a)█
```

• Figure 3.

PRORETRN.SUB (see figure 3). You will now have the means by which you can jump from PROTEXT to CP/M and back again without having to go through the tedious process of having to remember what instructions to type.

The reason for the duplication of the SUBMIT PRORETRN instruction line in both PROFILE.SUB and PRORETRN.SUB is that it is a single-action instruction. Like the revolvers used in the old wild west, after each shot was fired, the hammer had to be manually re-cocked to turn the magazine and

bring it to bear on a loaded chamber. Although the initial instruction contained in PROFILE.SUB will wait as long as is necessary to be acted upon, it will only fire a single shot. PRORETRN.SUB on the other hand, takes you from the era of the old west to the high-tech age of modern automatic weaponry. Not only will it re-cock itself after each shot, it will never run out of bullets.

But to make it fully operational, it has to be issued to the troops.

So with your Start Of Day disc still in drive A, type Load Startup.

The action you take next will depend largely on the amount of memory you have at your disposal. Those with an unexpanded 8256 will have to take care when deciding what program to transfer to the M drive. Those with either an expanded 8256 or an 8512 will not be so limited. In either case, two programs which have to be transferred if the 'Return to Protext' system is to work, are SUBMIT.COM and PRORETRN.SUB.

If you have not already erased the semi-colon on the first line of the Startup program because you don't want all the COM files committed to memory (see figure 4) insert a new second line and type in ECOPY A:SUBMIT.COM M. If you have erased the semicolon, no further instructions will be necessary. The SUBMIT program will be transferred across with all the other COM files.

Next, insert a new line between those directing the

```
PROTEXT  Program  startup      1K    STOP for command mode            ALT-H for Help
Ch 80    Line 5    Col 1              No markers set                    Insert
;LIST:ECOPY A:*.COM M↵
ECOPY A:*.HLP M↵
ECOPY A:PROTEXT.CFG M↵
ECOPY A:*.PTR M↵
↵
ECOPY A:EXFILE M↵
EXEC A:EXFILE↵
```

• Figure 4.

transfer of the printer controls and the executive files. Into this line type, ECOPY A:PRORETRN SUB M.

After saving your new Startup file, reboot your SOD disc by pressing Shift/Extra/Exit and give PRORETRN a workout. With PROTEXT up and running, insert your CP/M bootup disc and type, for example, #date set. It's not really necessary to enter anything into it. Simply press return a couple of times instead.

After you have pressed return the second time, Joyce should quit DATE SET and return you to PROTEXT.

A WORD TO THE WISE
Although there are a number of programs around which cannot be accessed from PROTEXT, I have only come across a couple so far, which will not allow automatic re-entry to PROTEXT. One of these is CASHBOOK, a program which, although started from within CP/M, contains a BASIC master program. It

can be unjammed however, by typing SYSTEM at the 'ok' prompt.

Another is a program that must be run in conjunction with the CP/M SOD disc. Although it runs from PROTEXT quite satisfactorily, it jams after finding that it can't read the SUBMIT file. The only way out is to type M: <return> followed on the next line by PROTEXT.

Unfortunately, this has the effect of leaving us with an empty gun.

Reloading it is a simple matter, however. Next time you want to re-enter PROTEXT from a CP/M program, type M: <return> followed by SUBMIT PRORE-TRN. This will re-start the auto load routine.

Once you have your 'Return to Protext' system up and running, you will invariably want to press f1/f2 to see what you now have on disc. I say 'invariably' because I know that a disc directory is like a WET PAINT or DON'T WALK ON THE GRASS sign to a computer user. It's irresistible.

What you will find is that you have increased your stock holdings by 2k. "Why that much?" you will ask. "After all, I've only added two lines to an already existing file and created a new file containing three lines".

A close look at the directory (see figure 5) will

```
PROTEXT Document  << No File >> OK   Justify Off       Word-Wrap   ALT-H for Help
Page 1  Line 1    Col 1               No markers set                 Insert
```

```
 PROTEXT v2.02 (c) Arnor 1986       Type HELP for Command info       Printer: PCW
a)CAT

Drive A: group  0

COMMAND .HLP   4K   EXFILE  .BAK  1K   PRORETRN.SUB  1K   SUBMIT  .COM  6K
CONVERT .COM  11K   J14CPM3 .EMS 40K   PROTEXT .CFG  1K   SYSINS9 .$$$  1K
DCOPY   .COM   4K   PCW     .PTR  2K   PROTEXT .COM 44K   TEMPLATE.MST  1K
EDIT    .HLP+  9K   PHRASES .   +  1K  SPELL   .COM 23K
EXFILE  .      1K   PROFILE .SUB  1K   STARTUP .   +  1K

  21K free

a)█
                                                           Drive is A:
```

• Figure 5.

show you that you have also created a second file called SYSIN59.$$$. This is a temporary storage file for the unused portion of the original PROFILE.SUB program.

Because there is no shutdown routine for PROTEXT this file remains on disc.

POSTSCRIPT

As I pointed out in the first article in this series, I am one of those people who is of an age which is commonly referred to as 'computer illiterate'. The way I go about solving problems may be a little convoluted, but they work.

If anyone discovers a better way, I would be more than happy to know. ∎

Shortcuts in LocoScript

LocoScript has many standard selection techniques which make choosing options that much easier.

A feature of LocoScript is that standard techniques are applicable to a number of different actions. For example, whatever change you want to make to the format of your document, there's a menu that will help you do this. Similarly, whatever form of cursor you are currently working with, pressing the Cursor keys will move it step by step. The cursor in your text will move character by character; the cursor in a menu will move to the next option in the menu.

This consistent approach is a great advantage to beginners because it means that you don't have to remember complicated spells to get LocoScript to work. When you are more experienced, however, calling up menus and moving step by step around the screen can be tedious. So LocoScript also includes a range of shortcuts - special keystrokes that give you the results you want very much quicker. The shortcut you will probably be familiar with is using the Set and Clear keys to type in word-processing codes like (+Bold) and (+Pitch12), but there are a number of other shortcuts - not all of which are covered in the User Guide!

The majority of the shortcuts in LocoScript fall into five main areas:

- Moving around the screen
- Moving around a document (in which we include moving around a LocoFile datafile)
- Moving around menus
- Inserting word-processing codes, and
- Setting margins and tabs

In this article, we will be looking at the shortcuts available in each of these five areas. Naturally, we will be concentrating on LocoScript 2 but, in fact, a number of the techniques we describe can also be used in LocoScript '1'.

MOVING AROUND THE SCREEN
The simple way of moving a cursor around the screen is to use the four Cursor keys: ← → ↑ ↓.

Pressing these keys enables you to move the cursor anywhere - or at least, anywhere that is valid for the cursor to go. But it can take a considerable amount of time to get to your destination, particularly if it's the beginning or the end of a document.

The way to speed up such movements is to hold down the SHIFT key as you press the Cursor keys. The effect of the SHIFT key is to make the cursor move in 'bigger' steps, though precisely what 'bigger' means depends on what you are doing. If you are working on a document, holding down the SHIFT key makes the cursor jump 40 characters at a time across the screen or 20 lines up and down the screen (depending, of course, on which Cursor key you are pressing).

On the Disc Manager Screen, however, the effect of the SHIFT key is to move from group to group rather than from file to file. (Where the group you want to move to doesn't contain any files, then you have to use SHIFT plus Cursor key to get to this group). In a menu SHIFT + ↑ and SHIFT + ↓ move the cursor straight to the bottom or the top of the menu, respectively.

MOVING AROUND A DOCUMENT
As you would expect, holding down SHIFT as you press the Cursor keys speeds up moving around a document considerably. However, the most efficient technique here is to use the special Textual Movement keys - EOL, PARA, PAGE, DOC etc. These move the cursor straight to the end of the line or to the beginning of the next paragraph or wherever.

Once again, the 'Shifted' option on each of these keys is typically associated with the larger movement: for example, hold down SHIFT when pressing CHAR and the cursor moves to the beginning of the next word; hold down SHIFT while pressing PAGE and the cursor moves to the end of the document.

If you hold down the ALT key while pressing one of these Textual Movement keys, then the rule is that the cursor moves the same distance but in the

opposite direction. For example, holding down ALT while pressing PAGE moves the cursor to the start of the current page; holding down ALT while pressing DOC moves the cursor to the start of the document.

Holding down ALT also has a 'backwards' effect with the Cursor keys while you are editing a document but of a slightly different type. As there is a Cursor key for each direction, there is no point in ALT simply reversing the direction in which the cursor moves. So its actual action is to keep the cursor in the same place on the screen and move the text behind it instead in the opposite direction to that shown on the Cursor key. (You see, there is a 'backwards' element in this action). Again the distance moved is greater if you hold down SHIFT as well, but the really magic feature of using ALT is that the cursor goes to exactly the same place in the document as it would if you had just pressed the Cursor key on its own: try it for yourself, if you don't believe us!

The Textual Movement keys also have a role to play in moving around a LocoFile datafile. The individual records of the datafile are rather like pages while the whole datafile is rather like a document, so we made PAGE move from record to record and DOC move to the end of the datafile. As you might expect (because we like to be consistent) ALT + PAGE moves to the previous record and ALT + DOC moves to the start of the datafile.

The other Textual Movement keys (CHAR, WORD etc) keep their usual actions in LocoFile - moving to the next character, word or whatever in the part of the record on which you are currently working. So instead of using PARA, for example, to move from item to item in a record, LocoFile uses ENTER to move to the next item in the record and RELAY to move to the previous item. (ALT + ENTER couldn't be used because this sets Caps Lock).

MOVING AROUND MENUS

When moving the Menu cursor, again the plodding option of pressing the Cursor keys will always work. However, there are a number of quicker ways to select options within LocoScript menus. For example, you can use SHIFT + ↓ to move straight to the bottom of a menu and SHIFT + ↑ to move straight to the top, while pressing EXIT will take you to the EXIT option if there's one included in the menu.

The main quick way to move around a menu is to start typing the name of the menu option you require. As soon as LocoScript identifies from your typing the option you require, the cursor jumps to this option. You don't even have to type all the letters of the menu option: LocoScript automatically matches what you type to all the menu options and picks the option that fits.

While you can, if you wish, type the full text of the menu option, there is rarely any need to type more than the first letter before the cursor will jump to the correct place. At least for all the most common

actions, the menu option starts with a unique letter so that just typing the first letter will do. For example, Abandon edit is the only option starting with an A in the Exit menu you get when you finish editing a document. As a result, all you need to type to finish editing a document and select the Abandon edit option is just EXIT A.

However, we weren't able to make all the menu options start with different letters. For example, in the File menu there are two options that start with the letter R - Rename file and Recover from limbo. If you just type R, then you will always pick out the Rename file option because this appears above Recover from limbo in the menu.

To pick out Recover from limbo instead, you either have to cursor down from Rename file or follow the R by letters like C or V or R that fit Recover from limbo but don't fit Rename file. It's no good typing RL or RFL because these letters appear in Rename file as well. However, while it's perfectly possible to work out suitable combinations of letters to type, it is probably easiest simply to learn what works in practice!

But a word of warning before you try using this technique. You must check first that the cursor isn't currently over a name that you type or a piece of text that you want LocoScript to search for. Otherwise, LocoScript may take your typing as meaning that you want to change this information, destroying the name or the piece of text that you have carefully set up!

Before we leave the subject of menus, there are a couple of other shortcuts worth mentioning. The first is using [-] to clear some or all of a name or a piece of text for LocoScript to find or exchange. When you press [-], the part of the name to the right of the small cursor within the name slot is cleared. You could use this, for example, to clear the remains of the DOCUMENT. xxx name LocoScript gives you for a new document.

The other special technique is pressing TAB to move straight to the next Command option in a menu. (A Command option is simply one that gives LocoScript a command to carry out - marked with an arrow ▶ or a diamond ♦ when it is selected). For example, if you want to move from the top of the Print menu to the Print part of the document option at the bottom, you can do this by pressing TAB twice (or by pressing TAB followed by ↓ if you prefer).

Pressing TAB works anywhere except on the text slots at the top of the Find and Exchange menus. It doesn't work there because Tabs are valid characters to include in the Find and Exchange text. When you press TAB, LocoScript assumes you mean to add a Tab to the text.

INSERTING WORD-PROCESSING CODES

The technique of moving around menus by typing some or all of the menu option is also used (in a slightly special way) to insert word-processing codes like (+Bold) and (-Italic) into a document.

locoscript

The standard way of inserting these codes is to use the Style, Size and Layout menus. The codes that control print effects like Bold and Italic can be inserted using the Style menu; the codes making individual changes to Character Pitch and Line Spacing can be inserted via the Size menu; and Layout codes can be inserted via the Layout menu.

The quick method of inserting these codes is to use the Set and Clear keys [+] and [-], followed by one or more letter or number keys.

+B	(+Bold)
+ P12 ENTER	(+Pitch12)

The code is typically inserted as soon as LocoScript recognises the code you are inserting (though if you spend so long typing the letters that the Set or Clear menu appears, the code isn't inserted until you press ENTER.

However, if you also have to type a number, then you will need to press ENTER to 'finish' the number before the code is inserted. (If you make a mistake as you type the code, you can press [←DEL] to rub out the mistake and re-type - just as if you were typing text).

The menus that you are moving around when you type -B, +P12 ENTER etc. are the Set and Clear menus. The [+] or [-] calls up the appropriate menu; the letters you type are matched against the options in the menu. The special feature of moving around these menus is that there is no need to press ENTER to tell LocoScript to go ahead unless the menu has actually been displayed on the screen, and LocoScript deliberately delays displaying these menus so that you have time to type the appropriate short keystrokes.

If you already use these quick keystrokes, you may well have picked up the details of which keys to press pretty much by trial and error (though they are listed in the Quick Reference section of the User Guide). What you may not have realised is that you can work out what you need to type just from knowing what the code you want to insert looks like when it is displayed on the screen.

The first thing to look at is whether the code starts with a [+[or a [-] and, if so which: if it starts with a [-], then the first key to press is [-]. If it starts with a [+] or neither, then the first key is [+]. Then you need to look which letters of the code are written in capitals and whether there are any numbers in the code: these are the characters you need to type after the [+] or [-] (remembering to finish with ENTER if you type a number).

The exception, there always is one!, is the Layout code (LayouT). The special feature of this code is that to insert it, you need to type +LT (the letters in capitals) followed by a number, even though there is no number in the code. The reason for this inconsistency is that the Layouts that you can insert by this method are copies of the Stock Layouts held in the document's Document Set-up and you need to type a number to identify the Stock Layout you require. However, the Layout code doesn't retain this number because, from the moment the code is inserted, the Layout code becomes independent of the Stock Layout from which it was made.

SETTING MARGINS AND TABS
The final set of quick techniques we'll look at are some special keystrokes that are available when you are using the Layout Editor to set up new margins and tabs.

As you probably know, when you first go into the Layout Editor, the cursor on the Ruler line is placed at the lefthand margin. So if you want to change the position of the righthand margin, you apparently have a lot of cursoring to do (though again, holding down SHIFT as you press the Cursor keys will speed matters up). In fact, all this cursoring is quite unnecessary because pressing SPACE will take you straight to the righthand margin. Similarly, pressing TAB anywhere along the Ruler line will take the cursor straight to the next Tab marker on the line.

Once the cursor is at a margin or a Tab position, there are some special keystrokes that you can use to change the margin position or change the type of Tab at this position. For example, to move either margin to the left of its current position, you just need to position the cursor on the margin and then press [-]. To move it to the right, press [+] instead. There's no need to use the f1 Margins menu at all.

The [+] and [-] keys also do magic things with Tabs while you are working with the Layout Editor. If the cursor is positioned on a Tab marker and you press [-], then as you probably know, the Tab marker is cleared. If however you press [+], the type of Tab changes: if you keep pressing [+] you will see the Tab marker cycle through all the different types of Tab: Simple, Right, Centre, Decimal and back to Simple again. If the cursor is not on a Tab marker, then the first time you press [+], LocoScript will place a Simple Tab at the cursor position for you. So if you simply want to place a Simple Tab at a particular position on the Ruler line, all you need to do is cursor to this position and press [+].

THE BEST STRATEGY
The strategy we suggest you adopt is to take advantage of the menus when you want to do something that you are not too familiar with but to use as many as possible of the shortcuts for all your everyday actions. The menus will help you get the right results; the shortcuts will leave you plenty of time for typing your all important text.

The shortcuts aren't that difficult. All you need to remember are a few simple rules: If you want a big movement, then hold down SHIFT. If you want to go backwards, then hold down ALT. If you want to turn something on or off, or make it more or less, or move it right or left, then try pressing [+] or [-]. ∎

All work and no play...

Games for the PCW are becoming as rare as hen's teeth, so we jumped at the chance of looking at a re-release.

The PCW computer has never been designed to play games, and this is reflected in the number available for this particular range of Amstrad computers. Although it is a serious workhorse, you would nevertheless be surprised how many people ask for 'leisureware'. The demand is not sufficient, however, to persuade software producers to make much effort in filling this small gap in the market place. Nor does it give much incentive to Australian importers to pay 'small quantity penalty rates' on any PCW games software they may bring into this country, only to see it sit on their warehouse shelves for months on end.

Pactronics is probably the only company in Australia with any feeling towards the game-starved PCW user and will often import PCW games, although few and far between, when they get the chance. Their latest game is Fairlight, and though not new itself, it is new to Pactronics, and we suspect to many PCW owners as well.

Fairlight is an amazing game featuring '3-D World Technique' graphics. Essentially it is a 3-D graphic adventure where every object discovered has its own attributes and most can be moved or stacked at will. The objects and characters share between them 'real world' features such as weight, momentum and sometimes a degree of intelligence.

Enough of the mechanics of the game - let's set the scene.

The Land of Fairlight had once been a beauteous place, peopled by a fair race led by mighty and worthy Kings and Queens. But the beauty had faded. The leaders had grown weaker and weaker. The Light had all but gone...

The history books written by the Elders of days long gone by talked almost solely of a land of peace, a land of music and jollity, a land where it seemed the sun shone brightly everyday in clear blue skies. But now, no one could explain exactly what had gone wrong. Many had despaired and left Fairlight. Only the Castle Avars stood alone and silent on the plains of Avarslund. The last dwelling place of a King of

Fairlight, the King Avars who some say was King when the land was still full of magic, before the fall...

And this is where the game is set, in the castle where Isvar, our hero (you), is imprisoned. To escape, he must find the Book of Light and take it to the wizard who lured him into the castle. Finding the book will involve solving many puzzles and fighting the castle's deadly inhabitants. These range from helmeted guards on patrol who will attack if you get too close, troll, wraiths, globes, plants and whirlwinds. They can all prove dangerous but can be dealt with or manipulated once you understand their behaviour.

The castle has many different locations including open courtyards, dungeons, towers and a cave system. Scattered around are object which can be picked up, although you are restricted to carrying five if their total is not too heavy. They serve many purposes which can only be discovered by trial and error, and you will find that some may not be just what they seem! Naturally you will need food and drink to keep you going, and you will also find a key, but you may have to puzzle over a barrel, plant, chicken and scroll.

It is clear that the 3-D technique has allowed a great deal of detail to be added to the 3-D rooms and caverns making the castle and cave system feel realistic as you explore. They are impressive and do convey the eerie foreboding of the castle. We can't find much wrong with the game except to say that things slow down on the screen somewhat when there are a number of characters moving around, but that is perhaps being over-critical as it does not detract in any way from the game itself.

There are heaps of puzzles to keep you busily thinking for many hours (even months) and you may not find it too easy at the start. Fairlight has a well-balanced mix of adventure and exploration with a good measure of action thrown in to keep you on your toes. ∎

Fairlight is available through The Amstrad User for $59.95+ p&p. Phone (03) 803 9661.

Genealogical studies

► ► ►

Mike Turner reviews "Personal Ancestral File", a database package designed for the aid of frustrated home Genealogists.

Tracing one's ancestry can be a fascinating if at times frustrating task. Still this hobby for want of a better term has always been around. I was always put off the task by virtue of the sheer enormity of it all. I wanted to use my computer to assist me in keeping track of the inevitable bulk of records accumulated.

At first I thought I could get away with using a word processor to print up details of my forbears. This worked quite well up to a point but still lacked the flexibility I needed. Searching for one particular person's details to update them became a bit of a nightmare. Which file was he or she in? I really needed a database of some sort to keep a track of things. The thought of trying to write my own software struck terror into my heart and again the family tree research got put on the back burner for a while.

I would have to find a dedicated family records program to do the job properly. These have been around in various forms for years. Most of them were for IBM machines with some CPM software available. Mostly they were horribly expensive and in a couple of cases riddled with bugs.

Enter Personal Ancestral File; which was just the sort of package I had been searching for. So, what is it and how does it work? PAF is a software package designed for home genealogists. It is produced by the "Corporation of the Presi-

dent of The Church of Jesus Christ of Latter-day Saints", or more commonly known as the Mormon Church. This particular organisation for religious reasons is bound up intensively in genealogical research. Consequently there are some portions of the software and the accompanying manual that do not really apply to others like myself who do not share that particular faith. However these areas are few and the package can be used by anybody interested in tracing their roots.

The package is designed to allow you to record genealogical information and then manage it to produce various printed reports. In this way things are kept neat and tidy in a centralised database. It also minimises the danger of losing vital data recorded on those little scraps of paper that everybody has used at one time or another.

PAF is available for a wide range of computers. There is a version for IBM compatibles which will run on all Amstrad IBM Compatible machines. There is also a CP/M version which is designed to run on PCWs but can be made to run on a CPC6128 as well. More on that when we talk about configuration of the program. Suffice to say that this review is equally applicable to owners of all Amstrad machines. Now that's a refreshing change isn't it? That should help stop the continual stream of letters from

people requesting preference for their particular machine when dividing up the available pages for each issue.

There are four programs included in the total package. The first is called Family Records (FR). This is the one that the majority of people will get the most benefit from. This is the program that actually stores your family tree data and produces the various printouts mentioned earlier. Next there is (RDF) the Research Data Filer. This is primarily used as an Aide Memoir when researching your ancestors. Then there is (GEDCOM) the Genealogical Data Communications program. This allows you to exchange family research data with others via a modem. Finally there is the (CONFIG) Configuration program which allows you to tailor the software to suit your particular needs and the type of computer you own. I will look at each of these with particular emphasis on the FR program, to give you an idea of how the whole package works.

FAMILY RECORDS

So let's start with FR. This is the program that you will use most for the reasons already mentioned. It allows you to:

Record information about individuals and families.

Enter notes on each individual and

document sources of information.

Find the links and tie family lines together.

Produce various reports, charts and lists.

For LDS Church members, produce lists of people and forms for temple ordinance work.

You can input an unlimited (well almost) number of records into the system. The only limiting factor is disc size. However, if you need more than one disc, you may split records up onto as many as you like. The only problem is that the records on each disc will not be linked to each other. This is not much of a problem as I will explain shortly as the program is very economical in the way it uses disc space and most people will not encounter problems in this area. Certainly those with hard disc drives will not have to worry at all.

What makes FR and other genealogical databases so useful is the way that they tie family lines together. Once you specify the relationships between people (e.g. a husband and wife and their children), those people remained linked by the database. It is then very easy to print out listings of family group records. All you have to do is specify one member of the family and the database will bring up all the other associated records for you when producing the printout.

The FR program is easy to use with plenty of menus and self explanatory prompts, making constant looking up of the manual unnecessary. Not that this would be a chore; as the PAF manual is a delight to use. It is one of the most clearly laid out and easy to use documents I have come across. Each program is explained in detail and there are easy to follow tutorials to get you started. There is also a comprehensive index at the back with supplements for different computers and printers.

Having entered the program by whatever method you use for your particular machine, you will be presented with the main menu shown in Fig. 1. Selecting any of the options from 1 to 7 will bring up an appropriate sub-menu with option 0 returning you to the

```
--------------------------------
PERSONAL ANCESTRAL FILE
--------------------------------

       MAIN MENU

1.  Data Entry
2.  Modify Data
3.  Delete Data
4.  Pedigree Search
5.  Notes
6.  Print Forms and Reports
7.  System Utilities
0.  Return to System

Please enter your selection: █
```
• Fig. 1

operating system. Let's look at the options in turn.

Selecting option 1 for Data Entry allows you to do the following:

Enter data for an individual such as name, date of birth, date of death and so on.
You can then add notes for that

person specifying sources of documentation and any other interesting facts or anecdotes to give a picture of how that person lived.

You may also add marriage data at this stage. You can specify whether an individual is a parent or a child in a particular family and have him or her linked to that family by the software.

Selecting option 2 to Modify Data allows you to do the following:

Add change or delete data about an individual.

Enter or change notes about an individual.

Change or add data about a marriage.

Add or delete any member of a specific family, whether they be parents or children.

Selecting option 3 to Delete Data allows you to do the following:

Delete an individual record.

```
                                        ----|Kenneth Robert Grey Jr-5
John Jay Grey-2                         |   |11 JAN 1865
16 DEC 1887          --------------------   |Akron,Summit,Ohio
Akron,Summit,Ohio                       |
   --SPOUSE--                           ----|Mary Jane O`Brien-6
Mary Lynn Fox-1                             |12 FEB 1867
3 NOV 1888                                  |Akron,Summit,Ohio
Akron,Summit,Ohio

    --CHILDREN--                              SEARCH OPTIONS MENU
1. Christina Emily Grey-3
2. Earl Glen Grey-4                    1.   Individual Information
3. Charles James Grey-7               2.   Father
4. Grace Faith Grey-8                 3.   Mother
                                      4.   Spouse
                                      5.   Child
                                      6.   Other Marriage
                                      7.   Pedigree Search
                                      0.   Return to Main Menu

                                      Please enter your selection:
```
• Fig. 2

Delete a marriage record. It should be noted that marriage records simply tie in individuals in the database to establish family groups. So the removal of a marriage record doesn't destroy the records for all the individuals in that family.

Option 4 is for a Pedigree Search. This is one of the most interesting parts of the software and extremely easy to use. It displays a three generation pedigree chart. As you can see from Fig. 2, this shows details of an individual together with his or her spouse and any children. Also displayed are details of the parents of the individual concerned. The fun part comes in the form of the search function that you then have at your disposal. You may search up down or sideways through the family tree via any person displayed on the screen. You may view specific information

```
-----------------------
PERSONAL ANCESTRAL FILE
-----------------------
PRINT FORMS AND REPORTS MENU

1.  Pedigree Chart
2.  Family Group Record
3.  Individual Entry Form
4.  Marriage Entry Form
5.  Individual Summary
6.  Descendants Chart
7.  Sorted Lists
0.  Return to Main Menu

Please enter your selection: ▌
```
• *Fig. 3*

about an individual and even edit individual details.

Option 5 is used for making or modifying of notes for an individual. Notes can be rearranged, changed, entered or deleted at will. They may also be printed out as individual documents or as part of Family Group Records, (but more on those in a moment). However, the notes function is a powerful tool for recording priceless information about your ancestors. Its other main use is for recording the sources of

documentary and other evidence required to verify identities and relationships.

Option 6 takes you to the forms generation area of the program. As you can see from Fig. 3, this allows you to print out a comprehensive array of reports and charts, together with blank forms often needed for pen entries of data when researching away from home. By utilising these forms, you can be sure that you obtain the correct data in a form consistent with the data entry procedure for the program.

The pedigree charts give details of all ancestors with a four generation span of any one person specified as the starting point for the chart. Another nice touch is that individual Record Identification Numbers (RINs) and Marriage RINs are also shown against the individuals concerned. This makes updating information very easy rather than having to search through the database first for the correct record.

Selecting the Sorted Lists option takes you to yet another menu from which you may obtain printouts sorted either alphabetically, by RIN or by user defined identification codes, as shown in Fig. 4. The combinations are too numerous to elaborate further in the space of this article. Let's just say that the printed output is extremely good.

Option 7 for System Utilities allows the following functions to be carried out:

Initialization of a formatted disc to accept family records data. This must be done before the program can be used for the first time. Subsequent use of this option will erase all family records on that disc in the process. So be warned!

Enter or change the name and address of the person who is to appear as the patron on printed reports such as family group records and pedigree charts. You can also change the name you

assigned to the data disk containing your records.
This is an electronic label on the disc which denotes the starting RIN or MRIN for individuals and family records stored on that disc. This becomes more important when you have a large amount of data and wish to split up different branches of the family onto different discs.

RESEARCH DATA FILER
The second program in the package is RDF. This is basically a tool

```
-----------------
SORTED LISTS MENU
-----------------
1.  RIN Sorted List
2.  MRIN Sorted List
3.  Name Sorted List
4.  Incomplete Individual Ordinances
5.  Incomplete Marriage Sealings
6.  ID Number Sorted List
7.  Individuals With Notes List
0.  Return to Printed Reports Menu

Please enter your selection: ▌
```
• *Fig. 4*

to assist you in recording the results of your research and grouping data together. RDF doesn't take the place of going to a library or registry and physically researching data. What it can do is help you arrange that data into meaningful information. It allows you to sort that data by name or date or relationships.

Say you have an ancestor called Brian Wilson. You might come across lots of information relating to a whole heap of people with that same name. You might enter this information and then use the program to sift through it according to certain criteria such as a date or place you know belongs to the Brian Wilson you are interested in. Hopefully this will make the task of finding documentation that refers to your ancestor easier. This is perhaps a simplistic example but it gives some idea of the power of this package. The sorting and focusing routines are extremely good and easy to use. You may edit two files simultaneously. In this way you may have a data file and a source documentation file on each person you are

researching and tie the two together.

One unfortunate thing is that there is no way of transferring data from RDF into the Family Records program other than re-typing it yourself. However when you consider the way that the two programs operate, you will realise the enormity of the task a pro-grammer would face to get that sort of thing to work. I think I can live with that little inconvenience. As with the Family Records program, an easy to follow tutorial in the manual will have you up and running with RDF in no time.

GENEALOGICAL DATA COMMUNICATIONS
The last and probably least used program in the package is called GEDCOM. As I mentioned early in this article the Family Records program is quite economical in its use of disc space. Your valuable data is stored in several highly compacted files that are not easily transmitted by normal communi-cations programs. It also makes transferring part of your database onto another disc difficult. This is where GEDCOM shines. Let me give you an example.

I have a cousin in Brisbane who is also involved in genealogi-cal research. We share common maternal grandparents. Conse-quently only about 1/4 of my ancestors will also be ancestors of hers. Should we wish to exchange data it would be pointless dupli-cating my data disc, as 3/4 of the entries on it would be of no consequence to her and vice versa. Using GEDCOM I can split up my database and copy onto another disc only those records of interest to both of us. Then I can transmit them to her by modem or simply send her the resulting file on a disc. GEDCOM also allows you to incorporate this data file into your own family records.

The use of GEDCOM is not for the faint hearted. There is a real danger that you may get yourself confused and scramble some data in the process. Mind you this is not the fault of the program. It's just that it is a fairly sophisticated
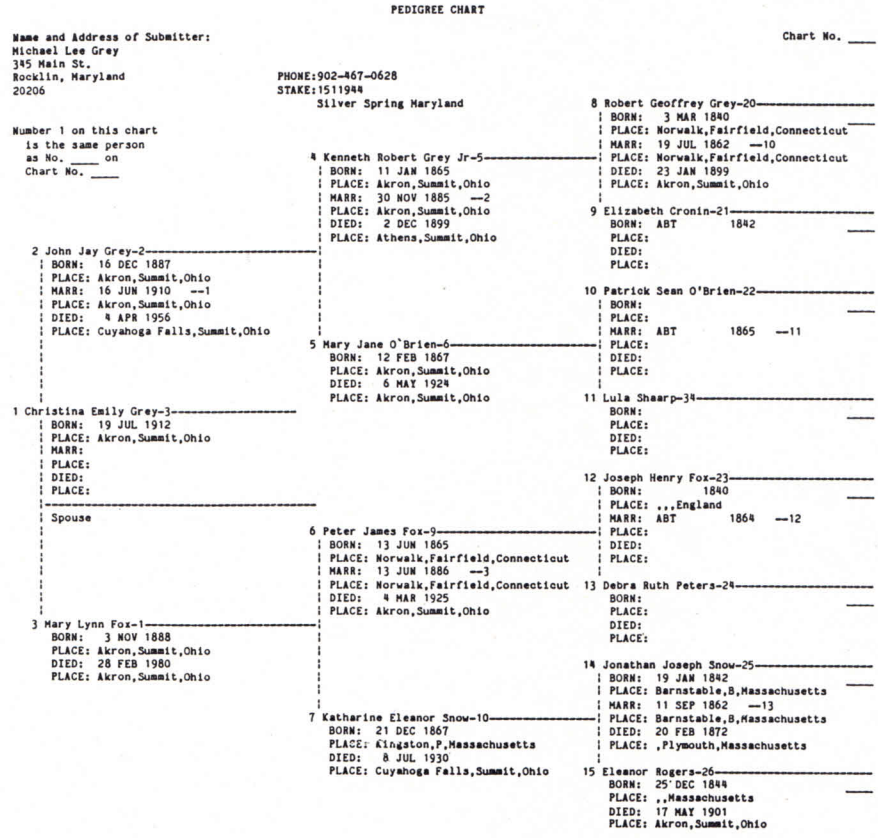
piece of software doing a complex task. In fact there are warnings liberally sprinkled throughout the menus of the program to alert you to possible problems. Take heed of the advice and make sure you have a complete back up of your data before commencing a GED-COM session.

CONFIGURATION
Two configuration programs are also supplied with the package. These allow the user to tailor the programs slightly to meet individ-ual requirements. They also allow you to install the programs for a range of computers and printers. Those wishing to run this on a CPC6128 will need to seek assis-tance from the software vendor. This is because the package as released is on PCW format discs which unfortunately the CPC cannot read.

However this problem can be fairly easily overcome by anyone with a bit of experience and access to both types of machines, as its only a matter of changing

the format of the disk.

CONCLUSION
As a friend of mine said recently, "There are work horses and there are show ponies". If you want colourful screens, bells lights and whistles then PAF is not for you. It is however, a solid easy to use package which is well written and contains no apparent bugs, and it has the world wide backing of an organisation dedicated to genea-logical research. Updates to the program are provided to registered owners as improvements are made.   ■

PEDIGREE CHART

```
Name and Address of Submitter:                                              Chart No. ____
Michael Lee Grey
345 Main St.
Rocklin, Maryland              PHONE:902-467-0628
20206                          STAKE:1511944
                                      Silver Spring Maryland        8 Robert Geoffrey Grey-20
Number 1 on this chart                                             | BORN:  3 MAR 1840
is the same person                                                | PLACE: Norwalk,Fairfield,Connecticut
as No. ____ on                 4 Kenneth Robert Grey Jr-5          | MARR: 19 JUL 1862   --10
Chart No. ____                | BORN: 11 JAN 1865                 | PLACE: Norwalk,Fairfield,Connecticut
                              | PLACE: Akron,Summit,Ohio          | DIED: 23 JAN 1899
                              | MARR: 30 NOV 1885   --2           | PLACE: Akron,Summit,Ohio
                              | PLACE: Akron,Summit,Ohio          9 Elizabeth Cronin-21
2 John Jay Grey-2             | DIED:  2 DEC 1899                   BORN: ABT      1842
| BORN: 16 DEC 1887          | PLACE: Athens,Summit,Ohio           PLACE:
| PLACE: Akron,Summit,Ohio                                         DIED:
| MARR: 16 JUN 1910   --1                                          PLACE:
| PLACE: Akron,Summit,Ohio                                        10 Patrick Sean O'Brien-22
| DIED:  4 APR 1956                                                | BORN:
| PLACE: Cuyahoga Falls,Summit,Ohio                                | PLACE:
                              5 Mary Jane O'Brien-6               | MARR: ABT      1865   --11
                              | BORN: 12 FEB 1867                 | PLACE:
1 Christina Emily Grey-3      | PLACE: Akron,Summit,Ohio          | DIED:
| BORN: 19 JUL 1912          | DIED:  6 MAY 1924                  | PLACE:
| PLACE: Akron,Summit,Ohio   | PLACE: Akron,Summit,Ohio           11 Lula Shaarp-34
| MARR:                                                            BORN:
| PLACE:                                                           PLACE:
| DIED:                                                            DIED:
| PLACE:                                                           PLACE:
|                                                                 12 Joseph Henry Fox-23
| Spouse                                                           | BORN:      1840
                              6 Peter James Fox-9                  | PLACE: ,,,England
                              | BORN: 13 JUN 1865                 | MARR: ABT      1864   --12
                              | PLACE: Norwalk,Fairfield,Connecticut | PLACE:
                              | MARR: 13 JUN 1886   --3           | DIED:
                              | PLACE: Norwalk,Fairfield,Connecticut | PLACE:
3 Mary Lynn Fox-1            | DIED:  4 MAR 1925                  13 Debra Ruth Peters-24
| BORN:  3 NOV 1888          | PLACE: Akron,Summit,Ohio            BORN:
| PLACE: Akron,Summit,Ohio                                         PLACE:
| DIED: 28 FEB 1980                                                DIED:
| PLACE: Akron,Summit,Ohio                                         PLACE:
                                                                  14 Jonathan Joseph Snow-25
                                                                   | BORN: 19 JAN 1842
                              7 Katharine Eleanor Snow-10         | PLACE: Barnstable,B,Massachusetts
                              BORN: 21 DEC 1867                   | MARR: 11 SEP 1862   --13
                              PLACE: Kingston,P,Massachusetts     | PLACE: Barnstable,B,Massachusetts
                              DIED:  8 JUL 1930                   | DIED: 20 FEB 1872
                              PLACE: Cuyahoga Falls,Summit,Ohio   | PLACE: ,Plymouth,Massachusetts
                                                                  15 Eleanor Rogers-26
                                                                   BORN: 25 DEC 1844
                                                                   PLACE: ,,Massachusetts
                                                                   DIED: 17 MAY 1901
                                                                   PLACE: Akron,Summit,Ohio
```

• Completed pedigree chart.

ENTERTAINMENT CENTRE

Reviewed this month:

- *Dynamite Dux*
- *War in Middle Earth*
- *Altered Beast*
- *Super Wonderboy in Monsterland*
- *Action Fighter*
- *Myth*
- *Deathtrack*
- *Xenon II*
- *The Cycles*
- *Universal Miltary Simulator*

DYNAMITE DUX
CPC Disk - $39.95 Tape - $29.95

When little Lucy is stolen by the terrible Achacna, her two friends Bin and Pin really do get angry! Throwing caution to the wind, they set off on their journey determined to get her back!

Yes, It's Dynamite Dux on the CPC complete with sumo pigs, snappy dogs, boxing crocs, packs of rats, rollerskating cats, and of course the two ducks with the dynamite punches!

Dynamite Dux is a multi-directional scrolling beat-em-up in it's most classic form. The game is for one or two players, with two players controlling both ducks (dux?) on screen at the same time. Your objective is to simply get from one level to another in the hope of rescuing Lucy while KO'ing as many villains as possible.
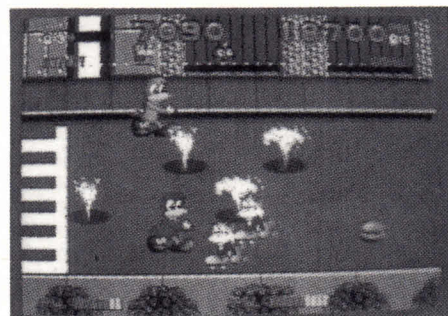
Most of the enemy can be despatched with one blow, but if it's heavy punch power you need, hold down the fire button for a second as your duck's arm winds up for a dynamite punch that leaves nobody standing! But when things get intense, extra weapons can be collected such as grenades, machine gun's, flame throwers, bazookas and everyone's favourite, heat-seeking missiles.

• Bin and Pin on the prowl.

As I mentioned before, there are a wide variety of nasties that connect with your fist during the game, all in typical cutsey Japanese style. My particular favourites are the end of level baddies such as the fireball, the rock monster (who looks like a prehistoric Mitchelin man) and the shooting star (which has to be seen to be believed).

The graphics throughout are excellent, including backdrops that range from city backstreets to rocky outcrops and steamy jungles. Sound is OK with powerful punches and other accompanying effects. But the best thing about this game is the playability, it's great! All the sprites move about nicely while screen scrolling is fast and smooth in all directions.

This is certainly one of the most playable games I have seen on a CPC, with the great graphics being just an added bonus. Overall, this is a fun game for all ages, particularly the kids. Cassette users will have to put up with the multiload between levels (buy a disk drive), but apart from that, all is OK. Miss this one at your peril!

WAR IN MIDDLE EARTH
Tolkien's epic struggle between good and evil

CPC Disk - $39.95

Three Rings for the Elven-kings under the sky,
Seven for the Dwarf-lords in their halls of stone,
Nine for Mortal Men doomed to die,
One for the Dark Lord on his dark throne,
In the Land of Mordor where the Shadows lie,
One Ring to rule them all, One ring to find them,
One Ring to bring them all and in the darkness bind them.

There have been three previous games, all produced by Melbourne House, based on the works of J.R.R. Tolkien. All these games have been adventures and, in their time, were very well received. Two of these games were in fact based on the "Lord of the Rings", and followed the exploits of Frodo and Gandalf. This time it's not in the form of an adventure, it's War!

War in Middle Earth is a one player war game, which puts you in command of all the forces of the Fellowship of the Ring. In essence, this means that you control the men of Gondor, the Riders of Rohan, the elves, the dwarves and more, as well as the fellowship of Frodo, Samwise, Merry, Pippin, Gandalf, Grimli, Aragorn, Boramir and Legolas. Also allied to the fellowship is Gollum. Against these forces are deployed the forces of Sauron, which include Orcs, the Nazgul and Saruman the Wizard.

The game commences with the fellowship in Rivendell, and all other forces at home. It is then over to you, and you give orders to all or some of your forces and start to move them around the map. Victory will be yours if you manage to transport the ring to Mount Doom. Completing this task is difficult, and following the tactics used in the book will not guarantee success; neither will assembling a huge army for a direct attack on Mordor. You will have to experiment to see which is the best way. The enemy will achieve a victory if the ring bearer becomes corrupted, or dies or if Minas Tirith is captured. Let the forces of the Dark Lord become victorious and the screen clears and a picture of the Dark Lord gloating over his victory appears. Ah well, you'll have to try again.

Upon loading "War in Middle Earth", you are presented with the main menu, which allows you to choose the method of control, one of the 15 levels of difficulty or to start the game. The default setting is for joystick control, but you can choose pre-defined or custom designed keys if you wish. Once you start the game, you are presented with a complete map of Middle Earth, with the positions of your forces marked. The cursor, a pointing hand, can be moved anywhere on the map. Pressing the fire button causes the campaign map to be shown. The area of Middle Earth under the cursor is now shown in detail, and your forces are shown as shields. By

pressing the fire button on a stack of counters allows you to either cycle through the stack, or issue orders to move, to join or follow another force. The latter commands are menu driven and therefore is easy to do. From this map you can also pass the ring from one member of the fellowship to another. This is necessary to ensure that the power of the one ring does not corrupt the ring bearer.

Having given your orders, it's back to the map of Middle Earth, and by moving the hand to the time icon, you can start the game. Also in the side panel is a message icon, and a file icon. A buzz sounds when a message is ready to be displayed and messages tell you when the ring bearer is becoming corrupted. From the file icon, you can save the game, restore a previous game, or return to Basic.

Time is displayed as Roman numerals and as time goes on, the dots that represent your forces move on their mission. Once one of your forces becomes engaged with the forces of the Dark Lord, time stops and the campaign map appears with a cross depicting the site of the battle. By moving the joystick up and down you can see the strength of your forces while right and left shows the strength of the opposition. Next it's into the Battle Screen, where the members of your force and the enemy is depicted by separate figures, either in the form of man, elf, dwarf etc. or orc, Nazgul or Saruman. You then direct your
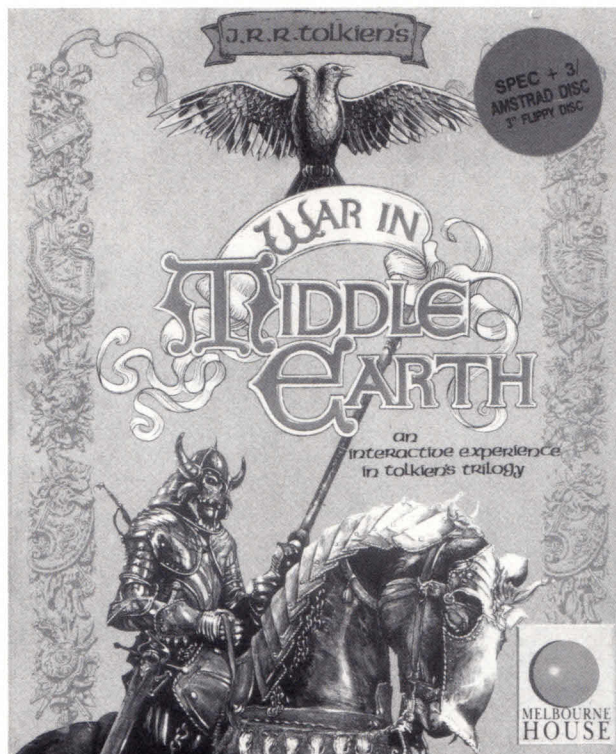
figures against those of the enemy and they fight.

When a figure is killed it is removed from the screen and when one side has been destroyed, the battle is over. Once the battle result is known, the main map is again displayed and you can then continue the war. While you can see the disposition of your forces at all times, those of the enemy are never displayed on the map. The only way you have of knowing their location is when you 'bump' into them engage them. This is a bit annoying but really does not detract from the quality of the game.

As an overall package, "War in Middle Earth" is very well produced. As well as the battle sounds (or sword on sword) there is a good piece of music that announces the end of a battle, the end of the game, or when pause mode is activated. The game comes complete with a detailed instruction manual which contains background on Middle Earth, the game instructions and a 'Gazetter' which contains a detailed reference to the people and places in Middle Earth. There is also a detailed map of Middle Earth which has a summary of the game instructions printed on the back. The product looks good, and in fact it plays just as well.

Melbourne House have obviously attempted to cash in on their earlier successes with the "Lord of the Rings" theme, and have decided to gamble on a war game.

The game is well presented, with an enjoyable and interesting war game the result. The only drawback is that it is a little too difficult, even at the lower levels. Given this, however, I think war gamers will find it a great challenge. I'll certainly be playing it for some time to come.

ALTERED BEAST
A howling good game from Activision
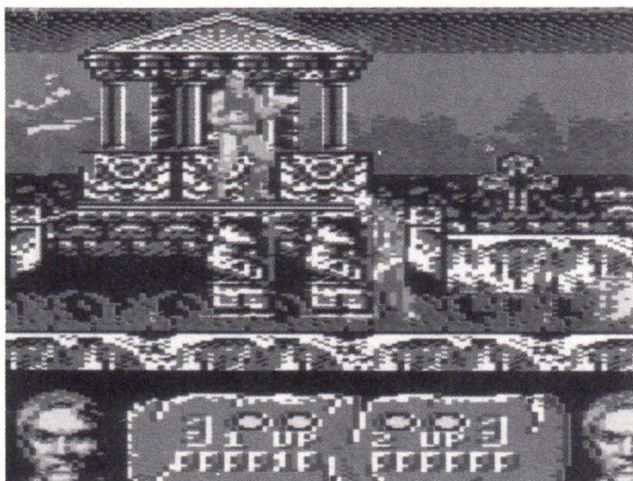
CPC Disk - $39.95
CPC Tape - $29.95

Altered Beast was a great game in the arcades as anyone who heard those digitised howls would know. You play the part of a fearless Roman centurion, brought back from the dead by Zeus to rescue his daughter Athena from the clutches of the evil Neff, ruler of the underworld.

Your journey will be a long and difficult one. You will have to fight through row after row of mindless zombies in the graveyards, take on giant leeches and winged demons in dank caves and eventually confront Neff himself. If all this sounds a bit impossible, Zeus has provided you with extraordinary supernatural powers which will allow you to collect "spirit balls" from despatched foes to transform yourself into an Altered Beast!

You will start life (afterlife?) as a humble mortal, relying on your fists, but eventual transformations will turn you into a crazed werewolf, a werebear, a

• Life's easy for a fierce Weredragon.

lethal weretiger, a fire-breathing weredragon or maybe even the awesome golden Altered Beast himself!

The programmers obviously have decided to go the whole hog in converting this to the CPC. The introductory screens are great with granite blocks depicting the struggles of our hero and a shimmering Zeus appearing from the darkness. Sound is good too, with a different track for each level accompanied by the usual in game effects. The game sprites and backgrounds are colourful and detailed with plenty of variation including a large array of hideous mythalogical monsters. One problem is the general speed of the game. All this detail makes the action painfully slow which mares an otherwise good product.

If you want fast and playable fun, look elsewhere, but if you want great graphics and limb tearing action minus the speed, then go for this.

• Zombie-bashing on level one.

SUPER WONDERBOY in Monsterland
Sega's nappy-clad hero returns
CPC Disk - $39.95
**CPC Tape - $29.95**

There lies ahead the greatest challenge. A nightmarish adventure of the forces of good against evil, as once more the peace-loving people of Wonderland turn to Tom-Tom to free them of the grasp of Meka and his murderous monsters. That's right, WONDERBOY IS BACK!

Super Wonderboy was an absolute gem in the Arcades and proved irresistible to anyone in need of a dose of pure platform perfection. For the uninformed, Super Wonderboy is a horizontal platform scroller in which our hero Tom-Tom, hacks through level after level of cutesy monsters in his quest for the fire breathing dragon, Meka.

Monsterland is a strange medieval place, full of armored soldiers, ghosts, bats, snakes and walking skulls to name but a few and all will have to be defeated before your day is over. Your victims will leave behind treasure, namely gold coins which can be put to good use at the nearest hollowed out tree stump (or shop to be exact). You can buy medicine, whirlwinds (for long range battles), extra armour, shields, winged boots or just simply sit down and have a drink.

As the programmers of this game have tried to keep the same graphic detail of the original, the screen has been limited to a simple three colour display, but all the character of the arcade counterpart are here. Wonderboy still has that determined look as he toddles along, sword in hand, while the monsters are squeaky clean and horribly cute. Sound is good too with plenty of in game effects and a bright title track.
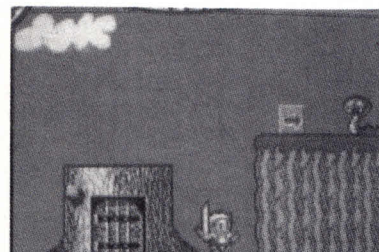
• Screen-shot from coin-op version.

All in all, Super Wonderboy is a good game. The reduced screen size means a reduced play area which is perhaps a little to small for my liking, but the levels themselves are long and varied which should keep gamers happy for ages, or at least until Wonderboy III comes along.

ACTION FIGHTER
CPC Disk - $49.95 Tape - $29.95

What can I say about Action Fighter. To describe it in a sentence, I'd have to say that it's an unmistakable clone of the ageing Arcade classic, Spy-Hunter.

You, a top secret spy known as the "Action Fighter", have been chosen by the President himself to confront the "enemy" forces in a confllict that will determine the destiny of the free world!

To aid your mission, you have been placed in control of the latest top secret combat veichle, which is capable of transforming from a high-powered bike, into an armoured car or awesome jet-car.

The game itself is a basic horizontal shoot-em-up in which our spy-hunting hero burns up the endlessly scrolling highway, trashing as many enemy vehicles as possible. As mentioned before, your vehicle starts life as a high-powered motorcycle, but transformations are possible by collecting parts icons that roll down the screen. Extra weapons such as double fire power and missiles can be collected from a "Sega" weapons van that appears occasionally throughout the game (sound familiar?).

The terrain consists of a colourful cityscape which apart from the odd jump or tight corner, is fairly easy to negotiate. The graphics throughout are colourful but indistinct, while the sound is sparse to say the least. Overall, Action Fighter is a mildly amusing bump 'n' crash game with no long lasting appeal.

MYTH
CPC Disk - $39.95 Tape - $29.95

Magical tales of intrigue and mystery were spawned thousands of years ago, as the world's civilisations believed that mythological gods and demons carved out the way of the world. They were said to have kept the world in balance and lay the foundations for our history.

No sooner is our hero called upon by the gods to reinforce the strength and truth of history. You are taken far, far back in time to confront the evil god Dameron, who is upsetting our past, future and destiny.

Myth is a platform arcade/adventure game, very much in the mould of "Clash of the Titans" and other mythalogical screen epics.

Your basic objective is to explore each level through time, slaying demons and collecting treasures as you go, to eventually confront the evil Dameron himself, and hopefully set things straight. Extra weapons and health items can be collected along the way by breaking jars that are scattered about each level. The graphics throughout the game are fairly standard, with some dull, colourless backgrounds and tiny enemy sprites. One plus is the animation, which is just about pixel perfect, with some very nimble demons and end of level guardians. But generally, Myth is nothing special, although arcade/adventure fans should be pleased.

DEATHTRACK
Murderous motorized mayhem from Activision

PC Disk - $59.95

Hurtling through the turn, you lock-on to the lead car and fire. In less than a second, your Falcon missile slams into the target and explodes in a ball of fire. You smile to yourself. He was a good assassin, but a lousy driver. Instantly your radar detects a terminator bearing down on your exhaust. You swerve, but it's too late. Another small mistake ends in a brief career on the Death Track.

Deathtrack is the motor sport of the future. You compete on super-tracks throughout the USA, where the world's most wanted fight it out in cars that reach speeds of 300 mph plus, and all are armed to the teeth with the latest high-tech weaponry that allows for no losers.

We've all seen decent race games, but Deathtrack has got to be the meanest, fastest, most hell on wheels experience yet!
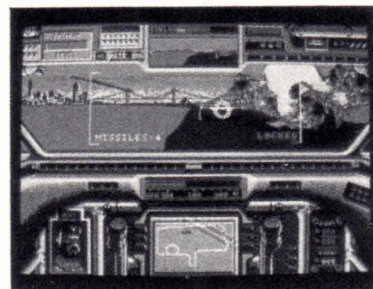
There are ten Deathtrack's throughout the USA. These range from the bustling metropolis of downtown Manhattan, to the arid deserts of Phoenix Arizona. All have their own characteristics, such as dips and humps, tight chicanes and monstrous jumps (that send many a Deathtracker to their doom).

On beginning your career, you will have a choice of three certified Deathtrack machines to compete in; The super-fast Hellcat, the heavily-armed Crusher and the cumbersome, tank-like Pitbull. All have their own particular qualities as the experienced Deathtracker will know.

Once you have selected your car, you can customise it at an official speed shop (mods to engine, trans, brakes etc...) or providing you have the cash, you can lash out at the nearest weapons lab. Being a bit of a bloodsport, an awesome range of weapons are available, like machine guns, caltrops, wheel spikes, lasers, mines, missiles, particle accelerators and high-explosive terminators.

Once on the starting grid, you are presented with a neat "cockpit view" of the action. All competing Deathtrackers have a fifteen second time limit to get mobile before the WCI (weapons systems) are activated. After that, you're on your own...

As mentioned before, the cars travel at outrageous speeds and you will have to keep your foot to the floor just to keep up with the rest of the pack. Above all, Deathtrack is a race game, and it's speed that counts, but if you can't get past a car or you find you are under attack, it's time to get tough. Lasers and particle beams are good for repeated attacks while missiles and terminators are efficient but expensive. Mines and caltrops are good for rear attacks.

If you suffer any damage during a race, you can stop at the pits for quick repairs and refuelling, but remember, time is money. If you're not so lucky, a missile up the rear or repeated damage will see you up in flames and out of the action.

The graphics and presentation throughout are of the highest standard with many option screens, accompanied by plenty of digitized pics of the tracks and drivers. The solid polygon graphics of the track and cars are the fastest, most detailed I have seen on any PC car sim (rivalled only by "Vette"), and the animation and use of colour are equally impressive. All the opposing cars are highly detailed and recogniseable at a glance (no boxes on wheels here!), and all behave differently which makes a change from the computerised dummies we are all used to.

Deathtrack is a great game with all the addictiveness of a shoot-em-up, plus the detail and lastability of a flight sim. You can't go wrong with this one!

• Another Tracker bites the dust.
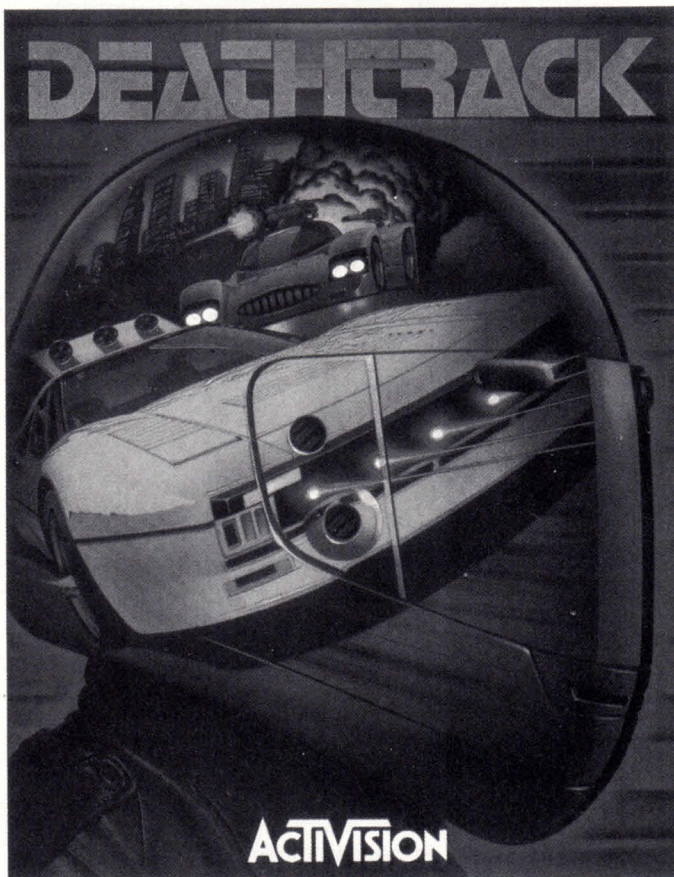
XENON II
It's a megablast!

No-one likes a bad loser. And no-one comes more universally despised than the Xenites. For a thousand years they have been plotting revenge for their humiliating defeat in the last Galactic Conflict. Now the very fabric of time is in danger. The Xenites have planted five time bombs through history. Only you can save the day, not to mention the Universe. This time it's war!

Your journey through time follows the process of evolution, represented by five increasingly arduous horizontally scrolling levels. Each has distinctive scenery and life forms, from the lowest form of life in pre-prehistoric times through to metallic mayhem in the spaceways of centuries to come.

Sadly these creatures won't listen to reason. The powerful radiation emitted by the time bombs planted at the end of the levels has mutated the once harmless beings into crazed aggressors which are now best shot or avoided. Your mission begins...

The original Xenon turned quite a few heads when it was released on 16 bits a couple of years ago, but it now fades into obscurity when compared to it's spectacular sequel. Xenon II is truly a horizontal shoot-em-up par excellence.
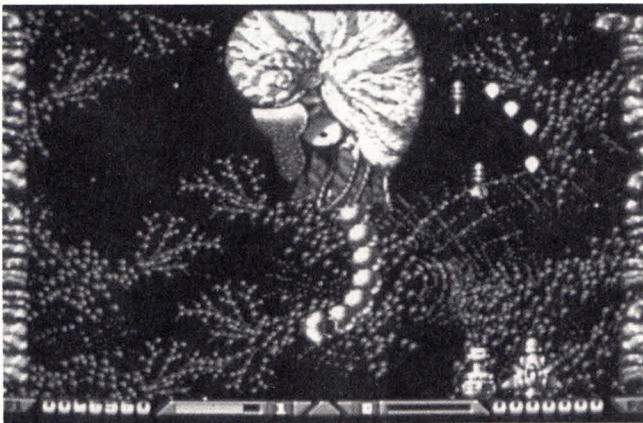
• A creepy crustacean lurks ahead.

The game takes place over five torturous levels with the usual "big boy" alien guarding the end of each. There are a hellish array of creatures and machinery to be encountered along the way including giant spiders, monster shellfish, mutated sea-worms and armored trilobytes to name but a few.

Your Megablaster spacecraft is equipped only at first with a humble blaster, but extra weapons along with large sums of cash can be collected from disposed creatures and weapons pods that appear along the way. At a couple of points in each level, you will come across a weapons shop where you can buy new weapons or sell any you have accumulated.

Crispin, a real mean dude (who looks like the alien from Predator), highlights a bank of video screens where you can buy some of the hottest new megablasting accessories on the market. These include side shots, lightning zappers, speed-up modules,
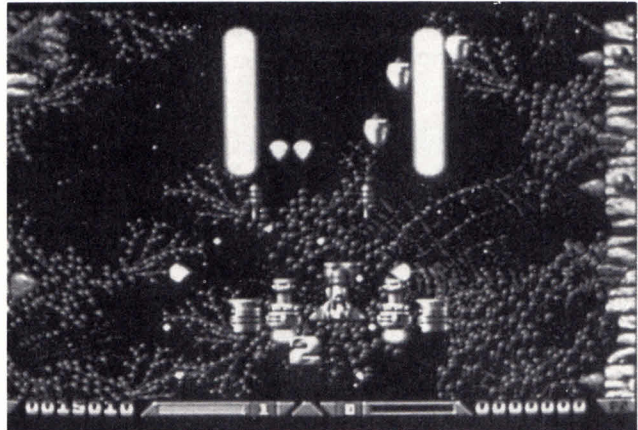
• Two seconds left of Super Nashwan Power.

power-up modules, electroballs, infamous megablasters and the super Nashwan power device which gives you ten seconds of totally awesome destructive power.

You are limited to three ships during the game but there is a continue option that will see you blasting on for a while longer.

As you can see from the screen shots, the graphics on both EGA and VGA screens are brilliant with incredible graphic detail paid to all the enemy sprites and background landforms, while the animation and general speed of the game are equally spectacular.

What more can I say? Xenon II is simply the best PC shoot-em-up there is. Go for it!
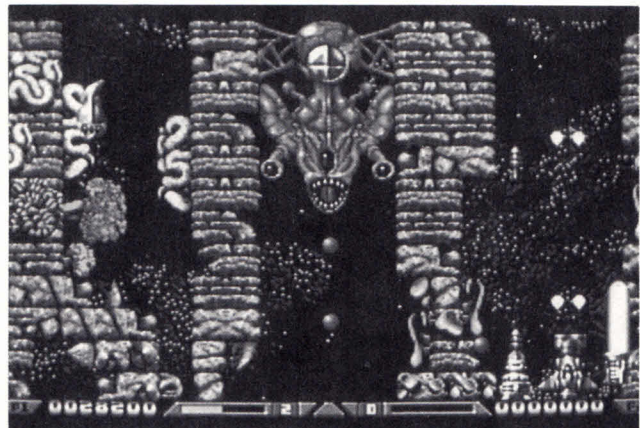
• Blast anything that moves!

THE CYCLES
Burn rubber in Accolade's thrilling GP simulation

PC Disk - $64.95

We have seen a heap of motorcycle racing games available on home micros over the years, but there hasn't been much about for IBM compat's so its good to see a game of such a high calibre being released for the PC.

The Cycles from Accolade offers motorcycle thrills over fifteen international courses on three different types of superbike.

On booting, you are presented with an option screen where you can select anything from a practice run to a full championship race. Once selected,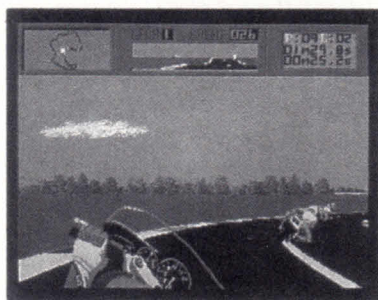 you can make your choice of bike as the riders push them across the screen, 125cc, 250cc and the awesome 500cc. All the famous international

• Down on the track.

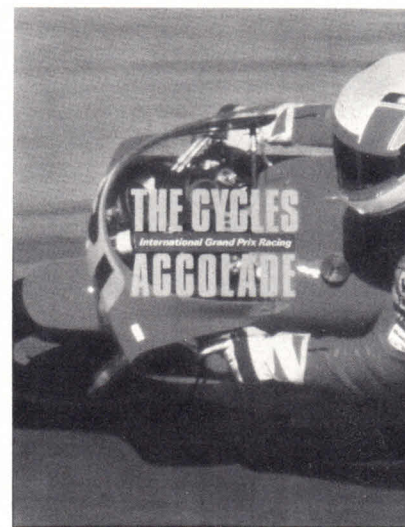circuits are here, complete with a map and track history.

After you have made all your selections, you will be required to complete a qualifying lap to determine your starting position on the grid of ten riders, once the race begins, its just a matter of burning rubber in a dash for the chequered flag. Control couldn't be simpler, forward to accelerate, back to brake and fire to change through the six gears (although you can select auto).

A very impressive feature of this game is the way the view is presented in a first-person perspective, with the bike sitting realistically beneath you (no more "following" your bike here). I played this game on a 12mhz machine and the track updates were superfast and supersmooth with the road snaking

out in front of me as I approached the on-coming curves.

Other screen features include a map of the track, a lap chart, a nifty rear-view mirror plus a speedo and an ever pulsing tachometer.

The graphics throughout are excellent with highly detailed background scenery plus various tunnels, bridges and roadsigns, all adding to the realistic feel of the game. What I like most about The Cycles is its sheer playability, just hop on your bike and your off. There are also varying degrees of difficulty ranging from a near tricycle to a wheel-standing, engine blowing superbike which will test the courage of many a lead foot. There isn't much sound to speak of, with a simple but accurate engine noise running through the game but some will be pleased to know that it does support an Ad-lib card.

Presentation is of Accolade's usual high standard with a comprehensive instruction manual and software decoder wheel included in the packaging (puts a real stop to pirating). Overall, if you want a fast and playable race game, without any awkward complications to slow you down, then you should go no further than The Cycles as it is clearly the best of its kind.

UNIVERSAL MILITARY SIMULATOR
Sophisticated battle simulations from Rainbird

PC Disk - $59.95

"Fate chose a little cross roads town for the scene of the bloodiest, perhaps the most crucial engagement in American history. The Battle of Gettysburg."

Gettysburg, 1066, was General Lee's great chance to defeat Napoleon on the battlefields of ancient Greece, or was that Alexander the Great versus Patton?

Maybe Darth Vader versus Wellington might be a greater challenge to the arm-chair strategist, or the Japanese invading Queensland.

These and many other realistic or fantasy wars

and battlefields can be created and played by UMS. From 'Nam' to Mars or from Tolkien's Lord of the Rings you can re-create all of your dream battles and make them come to life on your PC screen. For those of us who love the challenge of tactics and strategy on the battlefields of the world, this is a replica of the real thing (without the bullets, the blood, and the dead and injured).

The game opens with a menu which asks you what you would like to do, this first screen is in colour but unfortunately the graphics are quite poor.

Here you have the option to either run a simulation, create a scenario, design a map, design an army or quit.

When you choose to run a simulation you will be shown a second screen where you may choose one of five battles that are included on the program disk, these are Arbela 331Bc, Hastings 1066, Marston Moor 1644, Waterloo 1815 and Gettysburg 1863. Another option is to load from a data or scenario disk, these scenarios can be made by yourself or can be bought as additions to the game. The actual game screen is shown as a 3-D grid map, the opposing forces shown as counters on the map each having a unit name on the counter as well as a symbol stating the unit type. There are 18 unit types in the game (anything from tanks to chariots and elephants) with the possibility of a further 6 wildcard units being added, which can be designed by the player (your choice of strength, speed, abilities, and other specifications), number of actual units on mapboard is unlimited. Each unit having a certain number of soliders anything from 2 to 2500 or more.

The terrain features that may be shown on the map include hills, depressions, ridges, woods and towns, unfortunately there are no roads or water ways but hopefully these might be present on a later edition.

Below the map is a series of commands which can be accessed by using the arrow keys and the Enter key to execute the command. The majority of these commands allow you to view the map from every point of the compass and to zoom in to certain areas so as to closely observe the conflict. A game turn is divided into eight segments of several minutes each, during that turn each unit may be commanded to attack, defend, move or remain in reserve. Units such as archers or artillery may also fire at another units every segment, depending on a pre-set range to determine hits; each unit may move a certain number of movement points (influenced by type of terrain, and movement [aggressive or not] during a turn, the direction of movement is up to the player and shown on the map as an arrow in that particular direction. After commands have been allocated you can choose what sort of action the enemy player will take (if playing a two player game you must switch active sides so that the other player may move his units) and also if you wish you may give your whole army an order such as 'left flank attack', your army will now follow this order but if you allocated indivudual orders these will not be overruled. It is advisable to run large scale conflicts in fast mode, when I tested the game in normal mode the computer spent one hour or more on a single turn.

This procedure is followed over and over again until the simulation time is over or until either side has been wiped out. At the end of each turn and at the end of the game a piechart is drawn showing current percentage of casualties and remaining numbers of troops.

Whole new maps, simulations or armies can be redrawn or edited by using the program editors built in, these are menu driven and quite easy to use, allowing for many different game possibilites as you can take armies from one simulation and play them under different circumstances against a different enemy on another map (so it is true that you can play Napoleon vs. Lee).

The game can be played as one player against the program's artificial intelligence (the best I have come across) or against another player, it is suitable for both modes. However, the target audience is restricted; I highly recommend the game to any wargames fanatics but I think it is far too complex for the beginner or anyone younger than the fifteen-sixteen age group, it is very close to the boardgames of the same type although it is different in some aspects. The only two other war-strategy games worthy of note that I have come across on the PC are the Ancient Art of War series by Broderbund and Empire, and this game is far superior to both in the actual strategy needed to play and the strategy produced by the program. The chief drawback is the unavailable map colours and poor starting presentation but once you have started playing it, you can never put it down. While the Broderbund games showed superior graphics, they were no challenge as even at the highest levels of play, the computer could easily be beaten, and Empire while having some good ideas behind it, also lacks stiff opposition by the computer player.

The Specs! The game requires a minimum 512k RAM and a CGA card, a high resolution screen also helps to enhance the picture, but it is not necessary. The maps and orders of battle may be printed out on a Dot-Matrix printer and used for any other purposes (creation of fantasy worlds etc). Unfortunately, as I said above, the game runs only in black and white and there is no sound. It is sold only in 5.25" disks for $59.95; it is definitely worth the price if this is the sort of challenge you are looking for. The package includes a PC game manual which is rather unclear about certain operations, but it is all easy to learn once you have played a few games. A good point about the package is the inclusion of a scenario handbook which gives detailed historical accounts of each conflict plus an order of battle for both sides, these I found to be good history lessons. Rainbird also produces scenario discs for the game, I test played disk two which is based in Vietnam and found it to be up to standard, these are unfortunately yet to be released in Australia.

The actual games make you forget completely about the graphics drawbacks, and you should find that it is very addictive, and it's possibilities are unlimited.

It has to be one of the best wargame simulations out, but I think it is strictly for the military strategy fanatic only. I hope you enjoy it as much as I do. Personally, I am going to buy one.

Roll over Beethoven

► ► ►

A rundown on AdLib's Music Synthesiser Card and software system to enhance games and create your own music.

Perhaps if you've read the covers of newer PC software closely, you may have noticed some new specifications appearing. Words like "supports Roland MT-32, AdLib, IBM Music Cards and other music synthesisers" indicate that with this particular game, you can get very much enhanced sound, often adding realism and atmosphere. Most major software producers are including the facility in their games notably Activision, Electronic Arts, Epyx, Lucasfilm, Microprose, Sierra and Taito.

AdLib have a number of 'sound systems', two of which - the Music Synthesiser Card and the PC Music System - are the subject of this article.

WHAT YOU NEED FOR BOTH
Of course you'll want an Amstrad PC (XT or AT) with at least a 360k disk drive and 256k of memory. In essence this means any Amstrad (except the PPC) which has a CGA or above capability and runs MS-DOS 2.00 or later. You will also need a set of headphones if you don't want to disturb others, or a

set of speakers (preferably with a built-in amplifier otherwise it's not very loud) or a stereo system which will accept an external source (line in). The latter can be as sophisticated as you like or just a simple stereo cassette player. You will also need a cable to connect the music card to your speaker system. The card accepts a 1/4" audio jack and AdLib have thoughtfully supplied a 1/8" adaptor for smaller headsets.

The Music Card itself is very easy to fit, in much the same way as installing a joystick card, and the job can be completed in minutes. Just make sure everything is switched off before fitting!

ADLIB MUSIC SYNTHESISER CARD
Once everything is connected, you can run a test program which continually repeats the same tune to allow you to adjust the volume, either on the card or your amplification unit. Sound distortion can occur if the volume is too high, so it's probably best to always use an auxiliary-type input and turn the volume right down especially if the card is overloading your amplifier. You may also get distortion if you do not use stereo-type plugs.

The card is supplied with a sound driver and a 'Juke Box'. The 'Juke Box' contains seventeen tunes on one 5.25" disk ranging from Ave Maria through to more modern pieces and provides a very good demonstration of the capabilities of the card. The sound
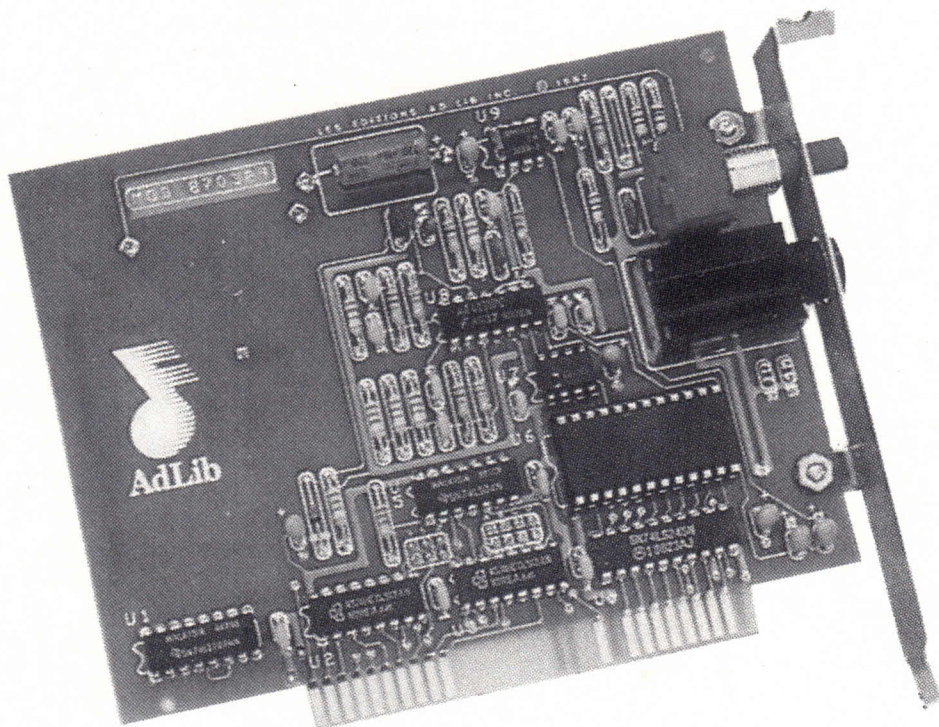
driver is needed to use the 'Juke Box' and reserves a buffer area to store commands. The buffer can be enlarged if required, allowing more commands and a quicker response but need not go beyond 12k.

The card is 'half-height' and can play up to eleven different instruments at the same time, anything from pianos and electric guitars to snare drums, cymbals and game sounds using FM synthesis and white noise generation.

What you are really buying with this pack is, of course, the Music Card. The 'Juke Box' software is supplied so that you can use the card straight away but more importantly to give you a taste of what can be achieved with a full PC Music System.

With the card fitted, Leisure Suit Larry 3 is provided with bar-type mood music, Fiendish Freddy with brassy circus music, Hero's Quest with chilling sound effects, Space Quest 2 and Police 3 with equally relevant music and sound. Some of the effects are quite amusing and in general the music sets the mood for a particular piece of action.

(A short, and by no means a complete, list of software supporting the AdLib card is shown in a box elsewhere).

ADLIB COMPUTER MUSIC SYSTEM

This is the full blown system containing the Music Card and 'Juke Box' software as described above, Visual Composer software for music composition and Composition Projects #1, a step-by-step guide to creating music in assorted popular styles. The system also supports voice by voice MIDI input, but you will need an MPU-401 or compatible interface to do this.

The heart of the system is clearly the Visual Composer software (called COMPOSER) and is the tool for creating your own music or perhaps transferring sheet music and putting together your own arrangement. Whatever you choose to do, there is one
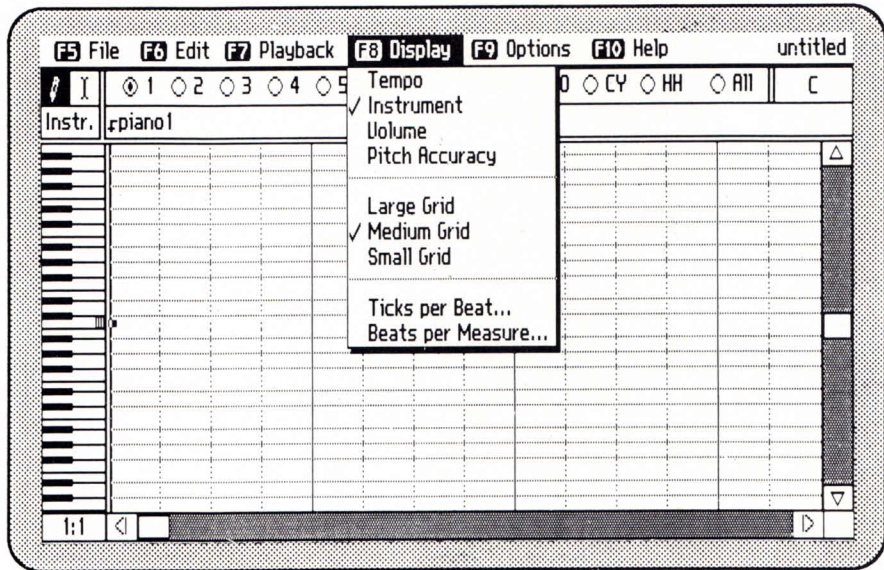
• Make your selection from the option windows.

standard composing screen which gives access to all the facilities of the program.

WYSIWYLT - "LISTEN TO"

The bulk of the display is taken up by a grid, to the left of which is a piano keyboard with the middle C note marked. The grid is the area used to identify which notes are to be recorded and eventually played. At the top of

pc hardware

the screen is a menu bar which can be accessed by pressing relevant function keys or by selecting with a mouse. Below the menu bar is information about the mode you are currently in.

As a general rule, written music includes two types of information: the notes to be played and the indications as to how to play them.

Notes are represented by dashes drawn on the grid, and the longer the dash - the longer the duration of the note. Notes being placed near the top of the grid naturally have a higher pitch than those near the bottom. You may want to change, for example, the volume or tempo of certain notes and this is achieved in the interpretation data bar below the menu bar.

Notes are added to the grid by merely positioning the pen cursor at the correct position and clicking the mouse. They can be removed in the same way. (You can use the keyboard if you wish but it is so much easier by mouse). As you move around the grid to position a note, the note you are currently passing over is shown in a box on the top right of the screen. Having identified the note (and the duration in the F8

menu setting the 'ticks per beat' and 'beats per measure') you can then tell the program how to play the notes by giving 'interpretation data'. This will provide information on volume, tempo, pitch accuracy and type of instrument. Apart from tempo, which will apply to all notes or voices, you can tinker as much as you like - from the whole

• Notes are displayed in a simple grid format.

tune right down to an individual note or even part of it.

One of the interesting features is the pitch accuracy facility. If you listen to music carefully you will find that two similar instruments which play the same notes simultaneously can be distinguished because they are not playing accurately the same pitch. This produces a rich sound and can be reproduced through the program by tweaking the pitch accuracy of one of the instruments on the grid.

Up to eleven instruments (or voices as they are known) can be played simultaneously - that is, using six melodic voices and five percussion voices. Alternatively, you can use nine melodic voices but without any percussion. (For a full list of the range of voices see box.)

Sections of music often repeat during a full melody and to save

entering the duplications by hand (or rather mouse) again, cut, copy and paste commands are provided to make life easier in this respect. The selector bar is positioned at the beginning of the selection and the mouse dragged to the chosen end point. The area selected is shown in reverse video. You can also use the commands to transfer selections from different music files.

At any time you can play the music you have so far written, and if you've got the right option ticked, you can also hear the note as you place it on the grid. You can also print out all or part of the assembled grid by using a program called VCPRINT which runs independently from COMPOSER under DOS. You also have a choice of printing the interpretation data.
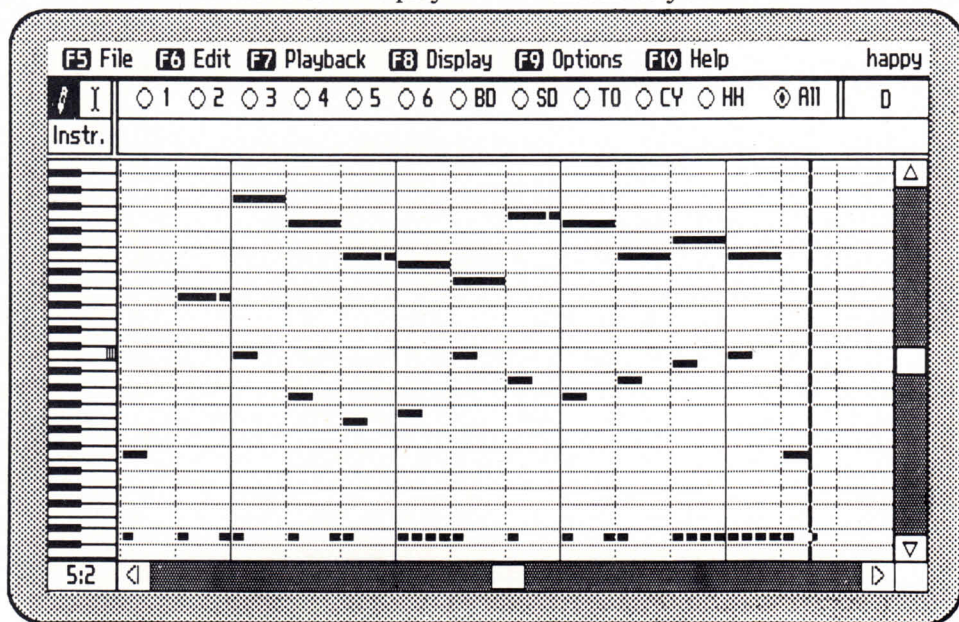
USING A MIDI INSTRUMENT
As explained before, your computer must be fitted with a Roland DG MIDI Processing Unit MPU-401 (or compatible) if you want to use a MIDI keyboard to enter notes into the Visual Composer. A driver is supplied for that purpose. When COMPOSER detects its presence, the MIDI Input command becomes accessible in the options menu. Once selected, a metronome (that's a beat register not a small man who lives in the Paris underground rail system) will start ticking ready for you to play the notes on your keyboard. These are stored in a selection buffer for pasting anywhere on the grid and editing as required.

This method of input is fast (if you can play a keyboard!) and the program will record the time a key is struck to the time it is released. If a high tick beat is initially chosen the result will be a very accurate representation of the note length played on the keyboard. It will not, however, record any customisation of the note at the keyboard end (such as velocity, pitch blend etc.).

THE MANUALS
There are three. The first tells you

how to install the Music Card and how to use the 'Juke Box'. The second is a user guide on COMPOSER - over 130 pages of information written clearly so that even the non-musical minds will understand. It doesn't attempt to explain about crochets and quavers nor does it tell you the difference between a 3/4 waltz beat and a 4/4 march that, presumably, will only serve to confuse the beginner. You will find that it does into great detail on how to operate the program by using the keyboard alone. For those of us with Amstrad PCs, we have a mouse which takes much of the donkey work out of remembering which keys to press and is certainly a much quicker way of entering or selecting data. Near the end of the manual is provided a step-by-step tutorial, summarising all the facilities expounded in the previous pages. You end up with a rendition of "Happy Birthday" played with three voices. At the end of the manual can be found a reference section covering the keyboard and menu commands, appendices explaining the preset sounds, technical data, using a mouse and so on.

You also get a manual entitled Composition Projects #1. It's another step-by-step guide, but this time provides basic examples of Ballad, Jazz, Blues, Classical, Bossa Nova and more. For each example, a music file is provided on the same disk as the COMPOSER program. It's really meant to be used once you have got to grips with main program. As the examples contain arpeggios (up and down accompaniment), bass lines and other chords they can be used to great effect by say, deleting the melody line and adding your own. You can really turn out some 'instant tunes' this way!

This manual also gives some useful guidance on how particular pieces should be composed giving suggestions on the voices to use, how the melody should be written (white keys or black) and how to make special effects which all go to make the result as professional as possible. Apart from the obvious need for the User Guide, Composition Projects #1 is an important addition to the package for the serious student. It also contains a useful glossary of musical terms.

SUMMARY

If you are remotely musically inclined, the PC Music System is worth a close look. Mind you, it's not that cheap. The full system costs $499, while the Music Card and 'Juke Box' pack costs $399. Both are quality products though and well presented.

There is no question that the Music Card by itself adds a tremendous amount (in most cases) to the atmosphere and realism of games - but at a price. You would be wise to save the extra $100 for the full system. ∎

SOFTWARE SUPPORTING ADLIB CARD

Colonel's Bequest
David Wolf
Death Track
Don't Go Alone
Face Off
Fiendish Freddy
Ghostbusters 2
Harley Davidson
Hero's Quest
Hoyle's Book of Games
Indiana Jones and the Last Crusade
Indianapolis 500
King's Quest 4
Leisure Suit Larry 2
Leisure Suit Larry 3
Mech Warrior
Murder Club
Police Quest 2
Silpheed
Space Quest 3
Their Finest Hour
Tongue of the Fatman

... and more!

PRESET SOUNDS WITH VISUAL COMPOSER

Banjo
Bass - Double
Bass - Electric
Bassoon
Bass drum
Bells - chiming
Brass ensemble
Clarinet
Cromorne
Cymbal - medium
Electric rock guitar
Electric jazz guitar
Flute - soft
Flute - muffled
Flute - electric
Harpsichord - full
Harpsichord - low
Hi-Hat
Marimba - medium
Marimba - hard
Oboe
Organ - bright
Organ - soft
Piano - normal
Piano - resonant
Saxophone
Sitar
Snare Drum
Synthesiser - slow/sonorous
Synthesiser - short/staccato
Synthesiser - resonant/short
Synthesiser - twangy/brass
Synthesiser - piercing/high
Synthesiser - distorted bass
Tin Can
Tom-tom
Trombone - brassy
Trombone - velvety
Trumpet - sonorous
Trumpet - soft/mute
Trumpet - resonant
Trumpet - smooth
Tuba
Vibraphone
Violin - bow
Violin - electric
Violin - pizzicato
Xylophone

Software for research

▶ ▶ ◀ *Dr. Martin Knapp provides details of new software aimed at academies, but should appeal to a wider audience.*

The introduction of word-processing has already made a major contribution to those preparing the results of projects for publication in academic journals, as official reports and consultative documents or as displays for a parents' evening or for a meeting of colleagues. There are other aids to presentation, now well established as "off the shelf" programs, which are important supplements to word-processing to improve presentation, and make up for a printer that may be less effective than some available, a printer's age and the price paid influencing its output!

In many projects, numbers are critical and the use of a spread-sheet program simplifies the collection of information, and especially the doing of calculations on the results. Many of those spread-sheets in general use often need supplementing with additional programs for generating good graphics or doing statistical computations. The range of these available is confusing, some are inappropriate for some users and some are not very good, or are difficult to use. Some can even give wrong answers, not having been evaluated professionally by independent statisticians.

The use of data-base programs to store and later retrieve and sort information has also an obvious relevance to many projects, although many workers in projects have been slow to introduce them, as more initial effort is needed to "customise" those that are most usually suggested for this function, when this is more than that provided by the use of word-processing and spread-sheet applications. Note-books of results and card index systems are still in widespread use - often sitting next to the word-processor!

There are a number of tasks that are common to many, if not all projects, and there is now specialised software, with the programs on offer providing more than the off the shelf word-processing, spreadsheets and data-base programs. This month several are reviewed which should be useful to many readers. They are examples of an increasing number of programs that fall between the needs of almost all computer users, like word-processing, and very

specialised research functions that need to have programs developed specifically for a task.

The programs under consideration are, in effect, adaptations of basic programs which are now highly developed for specific functions and capable of modifications to meet some specific needs not provided in the basic versions that are on sale. Time and skill would be needed to make word-processing, spread-sheet or data-base programs perform the same tasks, and in some this would not be possible at all. These programs can all be integrated into many of the programs that will already have been introduced with related functions, and provide single stroke solutions for certain applications which otherwise would have been difficult, or impossible.

PAPERBASE

A program providing a data-base for the published work relevant to a project, or that stored as a source of information to support a research or development program. Paperbase allows the compilation and organisation of a personal or departmental bibliography, and its subsequent use for tasks common to most research and projects of many sorts. Some of these tasks are ones for which a set of paper file-cards are the traditional method, and for which, many who now do project work are using the filing capabilities of a word-processing program, or a simple data-base. With few modifications these are already effective for what can be time-consuming aspects of this part of research. Those who chose to set up one of the programs they already have for the tasks of organising lists of information sources will not find the time, and may not have the skill, to implement many of the additional features that function as soon as a good specialised bibliography program is installed, as with Paperbase.

The extra facilities in a specialised bibliography data-base are useful and, especially, time-saving. They are available within Paperbase, as a result of years of use in a research environment, with refinements in use by the group of scientists who made

this, rather than science, their major interest.

Paperbase de Luxe helps the organisation and use of sources of reference material by:

1. Making entry easy and quick, e.g. one of the several time-saving features for key-board novices, as most research workers are not fast on the key-board, is that all standard entry is in lower case typing, i.e. no capitals; the program converts to capitals from lower case, e.g. an authors name, into a capital. There is help with how to describe the very many different sources from which information has been collected: books, technical reports, newspapers, conference proceedings, journals, with on screen prompts on how the source can be best stored for easy subsequent use.

2. Allowing the user to transfer in references in existing word processing programs, or in other electronic format, as long as ASCII files of the facts are available. Those using electronic searches of a major library data-base, either by modem or by use of releases as CDROM or other electronic media (at the start of a project or/and as it proceeds) can easily get swamped with lists of information sources that may be relevant. They need their own system in which to place selected references of possible future value, with the ability to search for specific items as needed, without returning to the centralised information data-base, and to reorganise according to new needs.

Paperbase de Luxe can take in references as DOS ASCII files, as provided by most data base files, with later access to the information through its search programs. Some screen editing of the main features of the references to be filed is often needed, to provide the correct Paperbase comma delineated files, unless a conversion program is available for that particular database - when the data can be stored for future use without any action by the potential user (although to run the simple check program identifies any entries possibly not in the correct comma-delineated order would be wise as even some large national data-bases are still kept without such checks, creating problems for persons who assume that they do)!

3. The organisation of information so that very rapid searches are possible for the features that are most often used in locating and grouping source. Those often needed include author, year and key-words (which can be the choice of the user). There is also a full alpha-numeric search, so that the whole data-base can be searched for a particular word or phrase. By placing the key facts in predetermined locations most searches and reorganisations of the data stored become very fast.

4. Providing options to reorganise lists of information sources in a range of ways can take a lot of time

without such facilities. The organisation, in a matter of minutes, of a list of 175 sources to provide a sub-set of 66 sources published in one year, say 1988, listed alphabetically according to the name of the author, and then renumbered from 1 to 66, would challenge most using a word processing package; with Paperbase it is done in seconds with very few key strokes. To then reorganise the sequence of information in that list, perhaps placing the title of the articles first, rather than the name, to suit the style of a particular journal, can also be tedious and time-consuming. Paperbase may take three key-strokes (if the journal is one on the included list) and not much longer if a layout has not been requested before from Paperbase.

5. Integrates with any word-processed data-base that uses the same operating system, allowing the user to keep more extensive records of what is in any of the information sources of reference (or even the whole text). Paperbase will also do a search of a manuscript looking for citations (which in most manuscripts have a typical layout), and then searching the data-base of references for the needed sources from which the citation was taken and listing those found.

An Apple Macintosh version of Paperbase de Luxe has just been released, a modification by an Australian based scientist, and this will be useful for those in departments with a mix of Dos-based computers and Apple Macs.

CONCLUSION

The introduction of word-processing and, for some, the use of a general data-base was a great help to those compiling and maintaining a bibliography, and this has diverted attention from the significant benefits that come from applying a database developed as a special application to this aspect of project work and research. Paperbase de Luxe meets the needs of most research groups and individuals, and is a useful introduction to computer use for the computer illiterate, as it is very easy to use at a functional level, needing no computer experience and with screen prompts that remove the need for any manual, which is as well with the manual provided being short to the extent it is almost non-existant, this is not a problem because of the help via the screen. To get full benefits the user needs to become familiar with the basic skills of copying, transferring and editing files, eventually essential skills for a computer-user; but it is a useful and usable program without these skills.

CHART ANALYST

On first consideration, this may seem to offer facilities available to users of any spread-sheet, and a number of optional techniques that are not under consideration by most computer owners as something they might use. It is, in fact, a program that almost everyone could find interest in its use. People

involved in projects, indeed in living, will appreciate if they think about it, that much of the information collected and used by them is date or time related, whether this is their wages, the weight of the baby or how fast they run a marathon. There are methods of considering this which, although not now widely used, are incredibly useful when they are. Those who depend upon for the detection of trends and change-points, and their interpretation, for their wages, the stock brokers have been the leaders in this aspect of computing numbers, and economists and doctors also. The typical spread-sheet program, developed for multiple functions, does not offer a spread-sheet that is set up as a calendar. The sheet can be created by the user to take data linked to date and/or time, but it is much easier with a pre-programmed data entry program that asks for the date (and time if available) when data was collected, and then places it in a correct sequence in relation to past and future data, and most important later graphs data in a correct relationship to date and time, and to other data also collected with date and/or time.

With Chart Analyst for example, 200 data points may be entered collected at odd times over a 15 year period, perhaps by someone with an interest in their body weight. This is stored, and later graphed, by a spread-sheet program, but setting up the sheet to provide correct spacing between data-points would be an initial labour that would take effort. To use a spread sheet developed to store data collected with date and time recorded makes everything much easier. If it is an objective of collecting information, or considering past information, that trends, events and change-points are detected, and perhaps for one variable (e.g. calories eater) to be compared graphically with several others (e.g. the weight, the blood cholesterol, the time taken to run 10 miles) then there are major advantages in using this program.

Chart Analyst would seem to be the least expensive, and one of the most versatile available, of programs for the storage and presentation of date/time related data. It will meet the needs of many who want to follow some aspect of their personal lives, be it their health or their shares, or who plan to monitor data from individuals or other time-related data as part of a project or a professional responsibility.

Chart Analyst provides facilities to plot the stored information in a number of ways - selected as suited to data that is date and/or time related. The plots of Chart Analyst are created very quickly, from data sets that include up to 280 times. The separate data points may be separated by minutes, hours, days, weeks, months or years, they may have been collected on a regular basis or, and this is when the specialised spread sheet has major advantages, at irregular or variable intervals. Several line plots in different colours for those with colour, and with different features for those without, can be drawn on one plot - with up to four plots on any one screen presentation. The permutations of how to look at

information are too numerous to describe, some are listed in the table.

The design of the program makes almost all facilities available to the most computer illiterate of users. It can be in use within minutes of purchase, and a method of learning how to use information of this type, using the provided examples and the good manual (both good with its instructions on how to use the program, and as an introduction on how to use the plotting facilities the program provides).

The main merits of plotting time-related data is to detect relationships, relationships between new data and old and relationships between one set of data and another. Chart Analyst allows the user to interact with the stored information, and the fast response time making it feasible to explore many combinations of looking at one, or at several data sets. There are many options available, so many as to potentially confuse the new user, but they allow the user to improve the prospects of correctly identifying trends in a plot, change points and comparative differences and when trends are found to generate projection lines - to predict what may happen in the future (or what may have happened before data was collected). ∎

Chart Analyst: Table 1

Plotting Options as:

Raw data
Averaged Data (e.g. weekly, yearly)
Autoscaled data axis (highest point at top, lowest at bottom)
Extended time axis i.e. before or after data
(for projections)
Magnification by "explosion"
(the ability to magnify any selected portion of any plot)
Grid drawing, or removal; (providing/removing reference lines)
Transformations, providing semi-log, reciprocal plots
(these often make interpretation easier and spread data correctly across the plot)
Trending, with lines of "best-fit" confidence limits
Projections, from lines of best fit and, for comparisons as:
By overlays (several plots using same axes and scales),
as raw data,
as modified data (as above)
as data sets adjusted to show change as percentage changes
By juxta-position (with data on different but adjacent plots)
By plotting after calculation of the ratio,
i.e. data 1/data 2 on any dates when both are available

To facilitate use of program:

Automatic plotting of pre-selected data-sets,
using pre-selected options.

Importing of data, e.g. from a laboratory computer
Exporting of data, e.g. to the printer to generate hard copy to a statistical program for more analysis (with add-on modules for statistics to be released).

MASTERFILE PC *VERSION 3*

Integrated Data filing, Document filing, Word-Processing, Mail-Merge

Every business has two kinds of filing requirement: data field-oriented which we call Data filing and free text which we call Document filing The traditional approach was to have one program for each - a database (DB) and a word-processor (WP). MASTERFILE PC has already established its reputation as a high-power relational DB at a popular price, but now with the version 3 we have added a powerful WP function. And since both DB and WP functions are managed by the one program, only one system of menus and dialogue need be learned, and there is a natural data-merge function to combine data with text into a mail-merge operation.

MASTERFILE-DB

Address lists • Sales Ledger •Bought Ledger • Inventories • Stock Control • Patient files • Job progress • Price lists • Bank analysis • Shares Portfolio • Photographic index • Property Details • Invoices

There are two main kinds of DB system on the market; those that require time and programming skills to set up and those that have virtually instant usability. MASTERFILE with its totally menu-driven approach is of the latter variety; and yet it offers huge flexibility in data presentation and manipulation.

MASTERFILE Data Filing is unusual in that it offers variable-length records within a direct-access file with a capacity of up to 16Mb or 32,768 records. There can be up to 80 data fields per record, each variable-length up to 254 characters, and data can be character, numeric, or date. Up to 32 user-designed screen/print formats can be used, so that from one data file you can present data as a summary index, and index card, mailing label, whatever, and add such effects as heading, boxes, panels. The relational aspect means that any record being displayed can pick up data from up to four other data files on a key-match basis.

An essential ingredient of a DB system is to be able to search the file and pick out records which match a given set of criteria. MASTERFILE's search functions are impressive and it can search on multiple criteria on any data (not just key fields), with speed and ease.

Arithmetic operations can be defined to operate on and derive numeric data e.g. taxes, percentages, price mark-ups. You can even perform date-arithmetic such as is required for ageing of accounts and subscription renewals. The logic can include IF/THEN/GOTO constructs for the sophisticated user.

Printing is buffered, so that up to 5 pages of printing can be stacked while you use the program to get on with other tasks. Printer controls can be set to control style and pagination.

We could also mention sorting, import, export, encryption, passwords, date-stamping, serialising, and host of other features - but we don't wish to bore you; if you wish to know more, just ask us!

MASTERFILE-WP

•Letters • Reports • Memos • Journal Extracts • Bibliographic references •Your Next Novel.

Just about every PC user already has some kind of WP system, but the chances are that yours is the kind where each document is a separate DOS file. With MASTERFILE, you can keep all your documents in one large DOS file (up to 16Mb), and manage all your letters, memos, journal extracts as individual documents on a private directory basis; except that our directory (we call in an Index) lets you have useful 30-character names and you can search on the basis of document name, date of last change, or on the text contents themselves. In effect MASTERFILE combines the searching power of DB with the free-format text handling of WP.

MASTERFILE WP Document file has its own selective back-up/restore system, and you can also import and export text files from and to other text systems.

MASTERFILE WP allows up to 6 documents to be open at a time, using the same window or different windows, any of which can be adjusted for size, position, style and colour. The basic WP functions are all there, and some novel ones too - such as 'spot' colour to highlight your text. You can tailor your own printer driver and expansion keys simply by editing two specially-named documents. Maximum document size is 64K, about 20 pages.

Printing options include multi-copy, partial print, pagination, headers and footers, left margin, system date/day/time stamps, serial numbering. And you can arrange selective text insertion from a MASTERFILE DB file for a mail-merge and several-across label operations. Printing uses the same buffer system as DB, leaving you free to do other tasks while a document is being printed.

HELP AND LEARN

The detailed manual is augmented with tutorial and several demonstration files. And, for the new (or the forgetful) user, HELP can be summoned at the press of a key to augment whatever menu you are looking at. There is even a facility for customising your own HELP frames using the WP function. MASTERFILE can learn too! To program a function key, you just press the 'LEARN' key then use the system normally, then press the function key. Or, you can store the function key in the file for long-term use.

How can MASTERFILE combined DB and WP program run in only a 256K MS-DOS environment? The answer is because it is compact, being totally coded in Assembler - unlike most other commercial software. If you have 512K or more, then MASTERFILE will make even better use of the available RAM. And the minimum disc configuration? Just one floppy. But users with hard discs can take fullest advantage of the large capacity. And what about the monitor? Any type from monochrome to VGA, and yes of course you can customise your preferred colour scheme.

MASTERFILE PC will run any PC-compatible, including any Amstrad PC/PPC, and is available on 3.5" or 5.25" formats in two editions:

Standard: DB only, but with read-only/demonstration WP functions.
Full: DB + WP

You can start with Standard and upgrade to Full later. Campbell Systems in the U.K. also offer upgrades to registered users of MASTERFILE PC version 2 or earlier.

Prices, (excl P&P) are **$199.00** (Standard) or **$269.00** (Full). All mail order enquiries to:

The Amstrad User
1/641 High Street Road
Mount Waverley 3149
Phone **(03) 803 9661**

or in Melbourne call at The Amstrad User computer shop, also at the above address.

Buying a hard disk

▶ ▶ ▶ *David Harley gives some advice to would-be hard disk users as, sooner or later, you'll need one of these things.*

I shan't go into the reasons for buying a hard disk: if they're not obvious to you, you probably don't need one yet (but you will..). If you do take the plunge, you have two initial options: an internal hard drive or a hard card. Machines which are not initially supplied with hard drives generally have limited expansion capabilities, i.e. two only connector cables for drives and a handful of 8-bit expansion slots. People with twin-drive machines will, therefore, normally go for an external hard-card so as to keep the use of their second drive. I would recommend that users with only one drive do the same, leaving themselves the option of adding another floppy drive fairly cheaply in due course, bearing in mind the possible advantages of adding a different type of drive to that supplied with the machine, e.g. a 3.5 inch.

However, the main advantage of the internal drive is that it doesn't take up an expansion slot, so if you use or plan to use a number of expansion cards, this has to be taken into account. Note that all the cheaper hard cards take up one and a half expansion slots, though they usually leave room for a half-length card next door. It has been suggested that internal drives are faster than hard cards.

My feeling is that factors such as the actual software you're using make more difference, subjectively, than the actual access time of the hard drive. Graphic front-ends like GEM or TAXI can slow down a system enormously, as can TSR's like SIDEKICK-PLUS. On the other hand, any hard drive is faster than any floppy drive under most circumstances.

10Mb drives are getting rarer, and are unlikely to be cheap enough to be worth the reduced capacity. Until you have one, you probably don't appreciate how easily you can fill up a hard-disk! For this reason, don't get a 20Mb drive if you can possibly afford a 30Mb. Many suppliers are now offering 20/32Mb Western Digital Filecards with Xtree (a competent file-manger) and SR (a cacheing facility). Some suppliers supply them ready-formatted and loaded with MSDOS and GEM for the Amstrad owner (Strictly speaking, dealers are not allowed to supply copies of MS-DOS in GEM as they are copyrighted. They can install from your own master disks however.-Ed).

The Filecard seems a little sluggish to me, but I've had no problems with those I've installed at work. They come with a drive-head parking facility (WDPARK). Some such facility is essential for any hard drive: if you knock a hard disk machine and the heads aren't parked, you risk not only the loss of data but the wrecking of the drive. The PARK utility supplied with the Amstrads only work's on the internal drive they supply with their machines.

INSTALLATION

If you're buying an internal drive, make sure you're supplied with sufficient information on the physical installation, especially if you have an Amstrad: these are trickier than most to get into (and you invalidate your guarantee)! You probably need some extra fixings to hold it in place which other machines don't require.

Fitting an internal hard card is as easy as it is to fit any other expansion card, even on an Amstrad- five minutes with a screw-driver should be more than adequate. I did find that fitting a Filecard to a 1512 meant that the cover to the expansion compartment didn't fit properly, but the CMS in my 1640 fits beautifully. I wouldn't consider this important. I shan't deal with the question of formatting the drive and physically installing the system programs, since even the Amstrad manual actually deals with this quite competently, and it's difficult to lay down guidelines to cover all options. Hard disk performance may well be improved by altering the interleave factor, but this is not necessarily an area the new hard disk owner should dabble in.

GETTING TO KNOW YOU

You may have managed nicely up to now knowing virtually nothing about directory structures under MSDOS: unfortunately, you have to know a little more when you get your multi-megabyte go-faster

stripes. As you probably know, floppy disks are limited in the number of files they can contain in the root directory. This is true also of hard disks, and it is much more conceivable that you could run out of available directory entries before you run out of available disk-space. Then, it's much easier to organise your disk in manageable subdirectory-sized chunks rather than in terms of one huge directory. In addition, the more programs and files you have on a given disk, the more chance you have of duplicating filenames, with all the risks of overwriting that entails. In fact, it is probably best if your actual root directory contains very little, probably just the essential configuration files and AUTOEXEC.BAT, with most MSDOS files in their own directory (if you follow

the installation procedure in the Amstrad manual, for instance, this is pretty much the sort of structure you'll get) and other programs in their own directories, e.g. separate directories for your word processor, your database etc.

There are a number of commands that may not have bothered you much up to now that you now need to scrape an acquaintance with: BACKUP (to guard against the day your hard-disc goes on strike) and RESTORE to get your backed-up files back into circulations: PATH to enable you to access frequently-used files without having them duplicated in several directories; REPLACE, as an aid to keeping your back-up discs up-to-date; XCOPY for navigating across directories; CDIR and RMDIR for creating and removing directories and so on.

One useful wrinkle might be to change the prompt to tell you which directory you're in at the DOS command line: one way of doing this would be with a little batch-file containing the line:

PROMPT pg

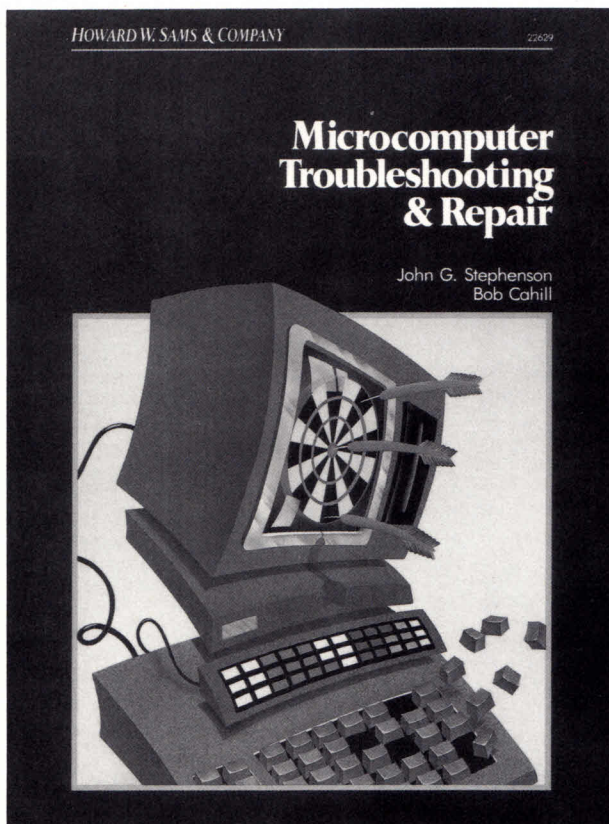which should give you the prompt:

C:\[directory name]

rather than the simple C prompt. This can avoid much confusion, especially when you're getting used to being a power-user!

This is the point at which you begin to appreciate the usefulness of the DOS batch-commands too; a sensible batch file which may take minutes or less to write can save many hours of typing over a few weeks or months. ∎

More wares to share...

► ► ►

Chris Collins has plenty of goodies for us this month, including a composer program for the musically inclined.

Hello out there, and welcome to Compatible's Corner for the month of May 1990. Well, this past month has been very busy and many of you will have been noticing a delay in getting your diskettes. Please allow for this as problems at work are currently taking almost all of my time, so some diskettes are currently creeping out to 21 day delivery. These problems at work will soon be solved, and all will be back to normal.

There is much news to tell you this month, including quite a few upgrades.

SCAN, NETSCAN, CLEAN and SCANRES have all been upgraded to release 60. These have been updated on the VACCINE PROGRAMS diskettes as they have been coming in, so nobody will miss out. If somebody wishes me to issue a new diskette with the above listed programs to be kept constantly up to date, this can be arranged. Probably it could contain these four programs as well as NBY (currently at NBY108), as these are the five programs that seem to be continually updated. Let me know what you think!

PC File v5.0 has arrived at my door. This appears to be an upgrade that has changed the look of the program a great deal and supports a lot more printers than before, but as yet I have not found any utterly fantastic reason to upgrade to. I must admit that I am a bit disappointed with this one Jim Button!

Expressware have just released new upgrades to the following program:- File Express (v.4.32), ExpressCalc (v4.10), ExpressCheck (v1.1) and ExpressGraph (v2.0). I will give you more news regarding these program upgrades as it becomes available.

Now onto the best one of all. 4Dos is now up to v3.0! I have already installed this on my hard disk, and boy is it an improvement. The archive now takes a diskette all to itself, and when you register you receive the 4Dos Utility Diskette. Some of the features are as follows:

4DOS.COM is now larger, but takes less memory than before, and automatically loads 4DOS286.EXE
instead of 4DOS88.EXE.
Improvements to the LIST command.
Differences in loading ALIASES.
Help system is now more compact, but harder to add to, and speed increases in operation.

All this makes it a worthwhile addition to anyone's computer. If you are not using 4DOS, your computer is slowing you down!

Now onto this month's diskettes.

BARTENDER

Bartender was written in 1986, so it is probably one of the older shareware programs still in use today. And it is showing its age! Bartender was written by a company called Homecraft from Tualatin Oregon, and the registration fee requested is US$25.00.

Bartender is very simple to operate, simply follow the menu prompts, it uses the function keys from the keyboard (F1 to F10 or F12) to carry out almost every function. The only time that you really need to type anything in, is when you are carrying out a search on either an ingredient or a type of drink. The program allows for cocktails, mocktails (non-alcoholic cocktails) and other types.

Much of the details regarding the operation of the program are in the DRINKS.DOC file, which can be printed out and referred to as required. However, due to the style of the program, and the logical way in which it is laid out, reference to the manual is probably not required. The only bad point that I found with the program is the F1 - Toggle Colour command from the main menu. It doesn't appear to work. Otherwise a good workable program, but I have a few others to check out for you that I hope may be better.

COMPOSER

Composer is the second diskette that we will look at this month. It is listed as "A Single Voice Music Editor". Well that is partly true, and partly untrue. If it is fired up on a PCjr, Composer can play three

voices (or strains) of music at once. However, due to the limitations of the PC's architecture on a full blown PC, only one voice can be played at a time. This can only be changed by the addition of one of the new range of music cards that occupy one of your slots. These cards cost approximately $400, but if my sources are to be believed, will give you better sound output than an Amiga or Atari ST. As yet, I haven't been given one to play with, so I can't expand any further (*Take a look at page 36 - Ed*).

The registration fee for Composer is US$20.00, it comes from a company called Oak Tree Software in Colombus Indiana, and the current version that I have available is v1.30. What Composer allows you to do is as follows:

Write music on a score.
Print that music out to your printer.
Play that music back through your PC's speaker.
Save and retrieve all of your music to diskette.
After writing your music, modify it any which way.

Not being much into music, I can't give you as good a run-down as a musical person could, but here goes. Before trying to boot the program you must run PRINTSET or the program will not start. Apparently, it requires to know the settings on your printer if you wish to print out your music. I didn't try to print anything so I can't really comment on the output. There are demonstration music files on the diskette including 3 LUDWIG (von Beethoven) files, Maple Leaf Rag in three parts and one other tune. I played all of these back, and modified most of them and had a ball doing it. I could change all of the parameters that govern a piece of music (as far as I know), and instantly see the effect on the score. The program is menu driven, although the symbols don't always mean much. Very enjoyable, and if someone out there who is musically inclined purchases the program, I would be very interested in a report on the program from their point of view.

DISK O'RESUME
Disk O'Resume is a resume with a difference. It isn't meant to supplant your normal paper resume, but to supplement it. It will create a full colour resume with all of your details on diskette for you to send to your next prospective employer, and let's face it, any company worth applying to has a computer system.

Disk O'Resume is produced by a company called MDB, and they are from Texas in the US of A. Registration fee is US$10.00. If you wish a copy of the program with your name as the author, the charge is US$150.00.

Disk O'Resume is designed to assist job applicants in these days of strife. The job market is tough, and getting tougher. You need a way to stand out from the crowd, and get yourself noticed. Disk O'Resume is the way to do that. It even automates almost every action for you. You can run the program in either of

two formats, with the small windows only, or with the large exploding windows as well. To set-up the small windows, you run MAKERES1, and it will guide you through every step required to set the windows up properly. All you need is the information required for use in any resume. To set-up the exploding windows, simply run MAKERES2, and you allow yourself much more space to express yourself.

After you have created your resume, you even have two batch files to automate copying of the necessary files to either the A: or B: drives. How simple can they make it? The only problem that I found was that the program doesn't have a function to centre the text on a line, but that could be in the part of the manual that I didn't get to reading. All in all, this is one excellent way to assist yourself in getting that job that you so desperately want!

FONTS FOR YOUR LASERJET
The fourth diskette that we will look at this month is ELFRING LJ + FONTS. This is a collection of fonts and programs to assist the Laserjet, Laserjet + and Laserjet II owner to get more use out of their printer. The diskette is published by Elfring Soft Fonts in Illinois, and the requested registration fee is US$25.00.

This diskette contains the following files, all of them self extracting archives, so you can see that there is a lot on the diskette.

DISPFNT2.COM:- This prints a sample sheet of a soft font, and works with either Laserjets or Deskjets. Documentation is included in the ar chive.
DOWNLD18.COM:- This is a program to assist you in the downloading of soft fonts to your Laserjet or Deskjet. Assigns an ID#, permanent or temporary status and the other things that a soft font needs to know.
FONTINF2.COM:- Examines Laserjet and Deskjet soft fonts, and prints out information about the font in plain English.
LJ&DJ.COM:- Technical information regarding the format of a font file for Laserjets and Deskjets. Documentation is included.
WORDPERF.COM:- Wordperfect v5.0 printer driver to install the fonts listed below in FONTS.EXE.
MSWORD.COM:- Same as for WORDPERF, but for Microsoft Word v5.0.
COMPSYM3.COM:- Computer symbols and match ing documentation.
SYMBOLS2.COM:- Self extracting archive of Dingbats and matching documentation.
FONTS.EXE:- Laserjet soft fonts as listed below:
Broadway 18pt. with Ventura Publisher width table and screen font;
Century Legal 10pt;
Garamond Fixed width fonts (Both Italic, Bold and Medium);
10pt proportional Greek Alphabet;

Helvetica 10pt (Medium, Bold and Italic);
Roman 10pt (Medium, Bold and Italic);
Roman Fixed width - 10 point and 10 cpi;
Script 10pt;

Elfrint has a wide collection of fonts in many type styles, sizes and weights, as well as a collection of utility programs to help the Laserjet and Deskjet owner. Some of his fonts styles include:

Rockford;
Script;
Square;
Flourish;
Old English;
Prestige;
Park Avenue;
Dot Matrix;

If he does not have a font to suit your needs, he will create a custom font for you at a very reasonable price.

WONDERFUL LASERJET FONTS
The second last diskette for this month is a freebie. Well not really, you still have to pay $7.50 for it, but there is no registration fee for the use of the program. The name of this diskette is GLYPHIX DEMO. This is a collection of fonts from a company called SWFTE International Ltd. (pronounced swifty). They produce a font generation program called Glyphix, and this is a demonstration of nine of their fonts.

The DEMO.BAT file will produce a four page brochure detailing the use of these fonts. This brochure also explains the Glyphix program and what the company is trying to achieve. Remember, this program does require a Laserjet+ or compatible printer to operate correctly.

GOLF
The last diskette for this month is labelled Golf League Secretary. This diskette actually consists of two archive files "GOLF HANDICAPPER" and "GOLF LEAGUE SECRETARY".

GOLF HANDICAPPER was written by Pat Rankin for the express purpose of keeping the handicaps of his regular golf foursome up to date. Although this group received regular monthly handicaps, Pat thought that this was not good enough for a group that may play eight rounds in a month. So he wrote GOLF HANDICAPPER to keep the groups handicaps up to scratch on a round by round basis. Registration fee for GOLF HANDICAPPER is US$10.00. The program is menu driven, and very easy to use. Even I could use it, and I have always felt that golf is a good walk spoilt by a little white ball!

GOLF LEAGUE SECRETARY is also written by Pat Rankin, and the requested registration fee is US$25.00. It is designed to keep a golf league under control, or so the documentation says. GOLF LEAGUE SECRETARY consists of three separate EXE programs called GOLFSECY, GOLFSECS and GOLFSECT. These files are described better below:
GOLFSECY records personal data on the members of the golf league, such as name, home address, phone numbers etc.
GOLFSECT contains the code necessary to configure the program, assign players, maintain win/loss records and averages etc.
GOLFSECS maintains the scores and handicaps of the league members.

GOLFSECY is the main program, and accesses both of the other two without the intervention of the operator. It is menu driven, and again very easy to use. Not being a golfer, I could not comment on the actual way the program is to be used, but it seemed to offer everything that I felt may be necessary, having a lot to do with TEN PIN BOWLING leagues. Some of the golfers could let me know what they think of the program.

Well that is about all for this month. Please remember that all of the diskettes listed above, plus any others that I have talked about are always available from MacroDisk at the following address:

**MacroDisk
Unit 2, 47 Vernon Street
South Kingsville, VIC 3015**

Each diskette costs $7.50 including postage, and will be forwarded to you within 14 days of receipt. Until next month, HAPPY COMPUTING! ∎

Publish-It!

Shane Kelly reviews Publish-It! The modestly priced desktop publishing program that get's results.

Desk top publishing is another of those phrases coined by the computer software marketers. My definition of a desk top publishing program is a program that will take some text and/or pictures and allow me to arrange them as I like, then print the lot with quality at least as good as you are looking at now.

Only two programs that I know of to date allow you to do this with ease. Ventura publisher and Pagemaker are both the choices of professionals in the Desk Top Publishing field. Both are expensive and require large amounts of computing power and expensive hardware to run efficiently.

This review will introduce a third program to that category - Timeworks Publish-It! is a $299 program that can do the majority of Desk Top Publishing functions carried out by the above mentioned programs, but at about a third the cost. Not only that, it will work on minimally configured home machines. It can run in 512k and dual floppy machines and it can run on sub-8mhz machines. I say it can, but I sure wouldn't like to, unless it was the only alternative I had. Since Desk Top Publishing is essentially a

What You See Is What You Get (WYSIWYG) application, a graphics card is essential. Not only that, the program cries out for a mouse. As I say, it is usable on minimally configured machines, but it isn't practical!

The package consists of both 5.25" and 3.5" floppies and required about 1.2 megabytes of disk space. This is a lot of floppies to shuffle in and out of the drives, but if you are patient, the output will be rewarding. A largish manual walks you through the task of installing the program to both floppy and hard disc and then goes on to explain the terminology used in the manual. This terminology will be familiar to most GEM users as Publish-It! runs under the GEM environment. You do not need to have GEM installed on your computer to use Publish-It! as it comes with its own "run-time" version of the popular environment. Incidentally, PC1512 and PC1640 owners, your GEM version is not the correct one and Publish-It! should be installed on your machine as if you did not have GEM there at all. After the terminology is explained, there is a quick start manual that will introduce most of the concepts in the program and have you off to a flying start. After that there is a more comprehensive look at all the steps needed to start, edit and print a document. Then there is a program reference guide that explains the menu items point by point, a few tips on design and some samples for you to work through. The appendices are thorough and informative, and the index is reasonably complete - 9 1/2 out of ten for the manual, Timeworks.

Using the program involves several steps. First you must define your page layout. This involves things like specifying the size of your page, it's orientation, and whether you want all pages to be alike or have alternate left and right pages for multi-page documents. Secondly, you must write or import your text. You are able to write directly with the program but I have found it to be much easier if you write your text with a word processor and import into your document. Publish-It! supports a number of popular word
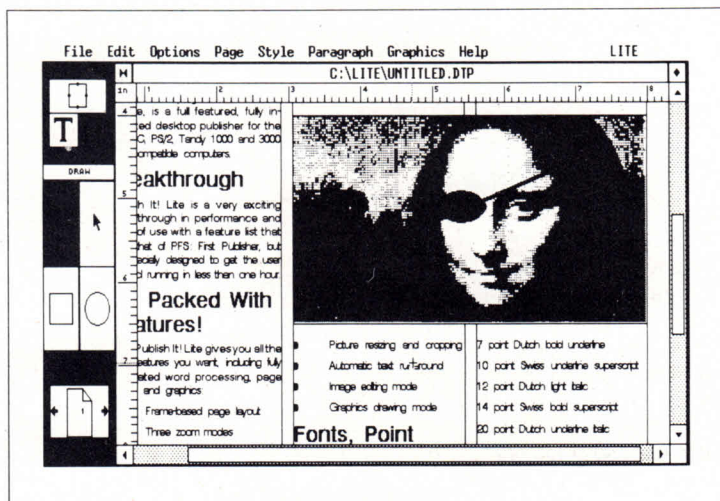
• Mona Lisa with a difference.

processing file formats and good old plain ASCII as well. Text is imported (or written) into "frames" which are simply predefined areas on the page. A frame must be defined before any text (or images) can be imported. To make a frame, you simply select the frame tool with the mouse, then move to the page you are working on, click once on the left button and then drag the resulting frame to the size that you want. It really is quite easy to do and you can have your first efforts in a minimum of time. After you have drawn your frame, you can re-size it and re-
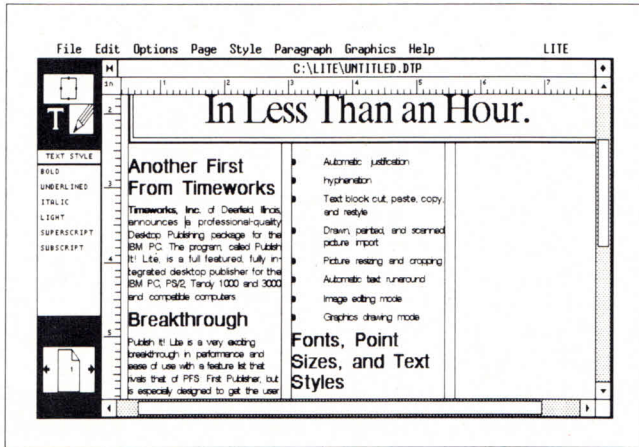
• Produce professional documents in less than an hour?

position it wherever you want to, and any time the frame you want is selected. Your words are contained in the frame and moved in the frame and edited in the frame. As you can see, frames are the heart of the program. Thirdly, you can draw freehand graphics (in frames) or you can import .GEM or .IMG or .PCX graphics files into a predefined frame. You can make a frame "go behind" other frames, make a frame opaque or clear so that you can see what is underneath the frame, you can draw borders on frames, resize frames, move frames or delete frames. You can fill a frame with one of several different fill patterns supplied or specify different line styles if you like. Then comes the printing of your document. The printers supported by this program are any supported by the GEM environment and include 9-pin dot matrix and 24 pin dot matrix as well as laser printers and the popular HP laserjet series. Best results are obtained with laser printers of course, but acceptable results are obtained from 9 pin dot matrix printers also, but be prepared to drink a lot of coffee while your masterpiece is printing out.

Publish-It! is the type of program that you buy if you have a need to turn out good looking presentations on a budget. It is powerful and easy to use, providing the manual is available. It takes practice to become good at, but that is true of anything. It is capable of good looking output even on minimally equipped machines, and is definitely "up there" on a short list of Desk Top Publishing programs for home and small business users.

What would a review be without a list of the things that annoyed me? For one, the mouse isn't as responsive as I would like, with one user reporting difficulty in selecting frames from time to time. I sometimes had trouble selecting one of the tools, but no trouble selecting frames. I do not have this trouble in other GEM applications that I use so I guess it is the program rather than the GEM environment. There is no customisation of paper size possible and you are limited to four sizes only from the page layout screen. You can however overcome this, by selecting the largest paper size available and then setting your margins to compensate. The slow screen redraw rate is more a function of the hardware than the software, but it is still annoying.

If you don't have a purpose for a Desk Top Publishing program, but would like to find out more about it without spending a fortune, how about trying Publish-It!-Lite, a cut down version of Publish-It! that has most of its features, but is limited in the size of document it can handle. At $89.95, it is no more expensive that a dear game and could provide just as much enjoyment. Check out the comparison chart provided for a list of Lites limitations against it's bigger brother.

Overall, Publish-It! is quite a powerful program that will enable people who wish to do occasional DTP work (even for laser printers) with little fuss and little cost. ∎

COMPARISON CHART

Publish-It Lite
4 page limit
400 frames per document
10 graphics imported
10 stories imported
Limited support for additional video cards
Limited support for other printers

Publish-It
999 pages
8192 frames per document
Unlimited graphics
Unlimited documents
Handles VGA and above
Handles postscript output
More fonts and sizes
Master page
Style sheets
More page sizes and views
More graphic tools
Variable link and word spacing
Variable paragraph spacing
Imports from MS Word, WordPerfect, WordStar
Paragraph tagging
Frames can be cut and pasted
Frames can have background graphics
Automatic hyphenation
Headers and footers
More versatile tab types
Sideways printing of pages

Objects in games

Phillip Riley ponders the past and present use of objects in adventure games, with some suggestions for your own.

Let's have a break from graphics this month and take another look at novel ways of hiding and using objects within your games. In the early days of adventures, you used keys to open doors and lamps to see where you were going in the dark, and back when I was a lad, I used a feather to tickle a dragon on more than one occasion.

So what has happened now. Generally you need some object of magic qualities to open doors (either that or the magic password), sometimes these objects can be quite obscure. Nowadays lamps are most definitely out and various other types of light are in, like mixing things in bowls that gurus give you. Now when I was a lad we had a lamp that we filled with oil and then generally we lit the lamp with a tinderbox. Ah, how times change.

As for dragons, they are generally killed with elven swords or such like. Tell one of the youngsters of today to tickle a dragon with a feather and they look at you as if you are mad.

So what has happened to adventures? Basically they have grown up, rather like children they have matured. Keys are always the obvious choice for opening doors, while lamps were absolutely made for seeing in the dark. Tickling a dragon with a feather is far more obvious than killing them with an elven sword (well that's what I think anyway).

But who is going to listen to an old adventurer who sits all day in the attic, just because I like using lamps and keys and the heavier elven swords are just a bit too much for me and.... (and I'm getting sidetracked here), anyway feathers are more environmentally friendly (the dragon is an endangered species you know).

Let's get this column back on track shall we, the demand for harder games has bought these changes about, it is no good having keys in every adventure, the game would hold no challenge. So here we go with a few ideas that while you may not wish to use as they are, you could modify or extend to use in your games.

Games these days seem to have lots of people walking around them but not many seem to use animals to a great extent. For instance why not use a glow worm instead of a lamp (or funny powders given to you by gurus). Or what about an electric eel to power a light bulb, (I only just thought of that one, not bad eh!!)

Instead of opening a door with a key why not get an elephant to knock it down. You could even get the elephant to fill its trunk with water and put out a dragons fire.

If you look at the animal world you will probably find an animal to suit any purpose.

Had you ever thought of smashing things before using them, smash a glass jar and use the broken glass to cut a piece of rope. Of course you may need to wear gloves so that you don't cut yourself on the glass. Another popular idea at the moment is to dismantle objects to get other objects out of them, you could dismantle just about anything, for instance you may need the batteries out of a radio or the motor out of a washing machine (what can you do with the motor of a washing machine? I don't know, you are the one who is writing this adventure not me).

Boats are always obvious ways of crossing rivers so why not cut down a tree (not very environmentally sound) and float across the river on a log. Or cut down a large tree by the river so that it falls across the river to form a bridge. (I can remember way back when, I cut down a tree to build a fire to melt an ice door. Ah, the good old days).

Next month we will be back onto graphics again starting with a letter from Barrie Eaton. Until then, if you see a lamp, use it! Don't rely too heavily on potion bearing gurus. ∎

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Unless otherwise stated, programs will run on the PCW, 6128 and 464/664 with extra memory and CP/M Plus. Programs for the 464/664 are on the CP/M 2.2 Collection. The discs are supplied in Data format and contain documentation files to help the user get started and provide instructions on running the programs plus useful sorted directory and MENU systems.

But remember, as Public Domain programs they are supplied on an as-is basis.

CP/M 2.2 COLLECTION
For 464/664 disc drive users with CP/M 2.2. Contains File Manager, Compare, Find, Disc sector editor, Key definer, Bad sector eliminator, Grep, Full Screen text editor, Easy lister, File transfer utility, Unerase erased files, erased files catalogue and many more.

CPC Ref: #430

FULL SCREEN TEXT EDITOR
This machine code editor offers full screen editing, full block operations, windowing, automatic horizontal scroll (line length up to 255 characters), macro functions, word-wrap and formatting, pagination, find/replace, undelete and many user options.

The editor, which is less than 10k in size, is fast because it edits a file entirely in memory. It produces ASCII text files and has enough features to be used as a word processor. A comprehensive on-disc manual is included together with keyboard configuration files for the CPC and PCW.

CPC Ref: #601   PCW Ref: #801

DATABASE
A small relational database suitable for storing simple data and producing reports and forms letters from the data. Offers free format query language with macros and commands plus on-line help. The disc also contains an Inventory Database. Whilst these databases provide a useful introduction and you can use them to set up a full operational database system they are not meant to replace commercial packages for professional or business use.

CPC Ref: #602   PCW Ref: #802

COMMUNICATIONS
Programs to allow data transfer between computers (local and remote), access databases and bulletin boards. UKModem7, New Kermit, MEX and various communications utilities. The disc also contains software for Prestel (Viatel) emulation (PCW only).

CPC Ref: #603   PCW Ref: #803

VIDEO CLERK
Keep track of your video collection. With four Sort options and Forms Management system for printing out the data in order of title number, video number, global alphabetic or unique. Includes extensive on-disc documentation.

CPC Ref: #604   PCW Ref: #804

FIXED ASSETS LOG
Allows you to keep a record of all your assets and their value. For example, at home, you may wish to keep a record of how much money you are spending on your computer or the value of a stamp collection etc. In business you can use it to keep a record of how much money you have tied up in land, buildings, office equipment, cars etc. It can also be used as a stock-taking program.

CPC Ref: #605   PCW Ref: #805

COMPLETE UTILITIES
• *Newsweep* - one key erase, copy, rename and print, plus many other features. Ideal for sorting out your disc collection quickly and efficiently • *Superzap* - disc sector editor - edit by track/sector or filename. Fully menu-driven with cursor key SETKEYS file • *DisckitA* - multi-choice disc formatter, offers 178k data format for PCW discs and 5.25" second drive formatting • *Unerase* erased files • *Read/write* PCW discs on a CPC • *CP/M v2.2 emulator* • *Make* - allows you to copy files across user areas • *Cleanup* - useful for speedy file deletion • *Lookat* - speedily lists any file in Hex and ASCII • *Screen Dump* (CPC only) • *Password* • *Easy Lister* • *Password Protection* • *File Scrambler* • *File Splitter* • *Directory check*

CPC Ref: #606 PCW Ref: #806

TEXT PROCESSING UTILITIES
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CPC Ref: #607   PCW Ref: #807

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CPC Ref: #608   PCW Ref: #808

Z80 PROGRAMMER
A complete Z80 Assembler which is capable of converting an ASCII assembler file into a fully executable machine code .COM program. Plus Z80 Disassembler, Z80 Debugger, Z80 Library, 8080 Disassembler, Z80 to 8080 Translator and associated utilities.

CPC Ref: #609   PCW Ref: #809

'C' PROGRAMMER
The Small 'C' Compiler by Mike Bernson. Includes source code and 25k of documentation. Produces executable .COM programs.

CPC Ref: #610   PCW Ref: #810

'C' TOOLBOX
A disc full of 'C' source code examples together with the corresponding executable .COM programs. Useful to those wishing to see some practical examples of 'C'. As a bonus, the programs are quite useful too. The 'C' source was written for a variety of compilers and may need modifying to compile on MIX or Small 'C'.

CPC Ref: #611   PCW Ref: #811

FORTH, STOIC AND 'C' INTERPRETER
For experimenters interested in using these languages. Documentation is included on disc.

CPC Ref: #612   PCW Ref: #812

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A varied selection of the best machine code programs available for CP/M. Includes Pacman, Snake (PCW only), Chess, Othello, Mastermind, Spellit, Awari, Life, Golf, Polish Pong, Maze, Biorhythms, Word Search puzzle maker, TicTacTo.

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PCW Ref: #815

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Mega Apocalypse	34.95	34.95
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Moon Walker (Michael Jackson film)	39.95	29.95
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PHM Pegasus	34.95	34.95
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Professional 4 Soccer Simulator	34.95	24.95
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Rainbow Island (Bubble Bobble 2)	**39.95**	**29.95**
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Scrabble (standard)	39.75	29.00

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CPC continued

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Super Scramble	39.95	29.95
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Toobin	39.95	29.95
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Turbo Outrun	39.95	29.95
Tusker	44.95	29.95
Typhoon	-	29.95
Untouchables, The	39.95	29.95
Vigilante	-	29.95
Vindicators	39.95	-
Vixen, The	34.95	-
Wanderer 3-D	39.95	29.95
War in Middle Earth	39.95	-
West Phaser (with Light Gun)	74.95	-
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Xybots	39.95	29.95
Yes Prime Minister	49.95	39.95

CPC BLOCKBUSTER BUDGETS

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Olli and Lissa 3	-	9.95
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Shockway Rider	-	12.95
Space Harrier	-	9.95
Super Stuntman	-	9.95
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Uridium	-	12.95
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CPC COMPILATION PACKS

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CPC continued

with Afterburner, Last Ninja 2, WEC Le Mans and
Double Dragon   -   39.95

BIZ, The   (tape only)
**with Double Dragon, R-Type, Batman, the Caped
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with 3-D Chess, Bridge Player, Draughts/Checkers
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Leaderboard   52.95   42.95

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with Dragon Ninja, Operation Wolf, Real Ghostbusters
and Barbarian 2   -   39.95

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with Return of the Jedi, Star Wars & The Empire Strikes
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Palace& Overlander   39.95   34.95

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Back to the Future and Quartet   49.95   34.95

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Loriciel's compilation with 3D Fight, Billy, Soccer, MGT, Flash
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THRILLTIME GOLD 1   (tape only)
**with Ghost & Goblins, Bombjack, Turbo Esprit, Paper
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THRILLTIME GOLD 2   (tape only)
**with Airwolf, Scooby Doo, Battleships, Saboteur 1 and
Frank Bruno's Boxing**   -   39.95

THRILLTIME PLATINUM 1
ten game compilation with Ikari Warriors,Thundercats, Buggy
Boy, Beyond the Ice Palace, Hopping Mad, Overlander, Live
and Let Die, Space Harrier, Great Gurianos & Dragon's Lair
                                            49.95   39.95

TAU GAMES +   (6128s only)
Dominoes, Snakes and Ladders, Mah-Jong, 3-D Noughts &
Crosses, Trucking, Tycoon plus Graphic Designer and Sprite

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Order value over $50	$5.50	$10.00

CPC continued

Designer	32.95	-

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Lords of Time, Red Moon and
Price of Magik   49.95   39.95

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**with The Hobbit, Lord of the Rings and Shadows
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with Blasteroids, Thunderblade, Indiana Jones & the Temple
of Doom, LED Storm & Impossible Mission 2 49.95   39.95

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Containing all the monthly type-ins published

Year Disc 1 - Issues 1 to 12	50.00	-
Year Disc 2 - Issues 13 to 16	22.50	-
Year Disc 3 - Issues 17 to 20	25.00	-
Year Disc 4 - Issues 21 to 24	25.00	-
Year Disc 5 - Issues 25 to 28	25.00	-
Year Disc 6 - Issues 29 to 32	25.00	-
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Year Disc 8 - Issues 37 to 40	25.00	-
Year Disc 9 - Issues 41 to 44	25.00	-
Year Disc 10 - Issues 45 to 48	25.00	-
Year Disc 11 - Issues 49 to 52	25.00	-
Year Disc 12 - Issues 53 to 56	25.00	-
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Separate tapes for each issue's type-ins are
also available :   each   -   5.00

CPC SERIOUS SOFTWARE

ADVANCED ART STUDIO (Rainbird)
Graphics package (128k only)   69.95

BRAINSTORM - ideas and reporting
system (6128s only)   79.00

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(6128s only)   99.00

EXTRA EXTRA - a disc of ready made graphics, fonts and
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MASTERFILE III - the best relational
database system (128k only)   109.00

MASTERCALC 128 - spreadsheet program for 6128s (or 464
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MATRIX - spreadsheet with text editing facilities, database,
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MINI OFFICE II - a comprehensive value package which
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Letterheads, Signs, Calendars or Greeting Cards with
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(Runs under CP/M Plus only)   59.95   -

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PRINT MASTER ART GALLERY 2 - 140 pictures of
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PROTEXT OFFICE - pop-up add-ons for Protext including
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(Needs Promerge & Protext)   79.95   -

PROSPELL - spell checker   69.95   -

PROMERGE - mail merger   69.95   -

STOCKMARKET - monitors shares etc.   49.95   -

STOP PRESS

The ultimate Desktop Publishing package for CPC owners.
Combine text and graphics with 'what you see is what you
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(Stop Press needs 128k)

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With AMX MkIII Mouse	259.00
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Mouse only	169.00

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Touch 'n' Go - Typing tutor (6128s only)	69.00	-
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CPC EDUCATIONAL

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Better Spelling (Ages 9-99)	29.95	22.95
Chemistry (Ages 12-16)	29.95	22.95
Biology (Ages 12-16)	29.95	22.95
Weather/Climate (Ages 12-16)	29.95	22.95

From Satchel Software (Education Dept. of SA)
For 6128s only

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Word Hunt Companions		
Volume 1, 2 or 3 … each	40.00	-
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Mega Maths (Grades 9-11)	49.95	-
Micro English (Grades 9-11)	49.95	-
Primary Maths (Ages 7-11)	69.95	44.95

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*(Developing Reasoning, Logic, Estimating and Forward
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1. Treasure/Perfume Hunter (7-10)	49.95	39.95
2. Fletcher's Castle/Raider(8-12)	49.95	39.95
3. Thorn Sea/Ferry Captain (9-13)	49.95	-

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containing 10 educational programs.*

Vol 1 - ages 2 to 5	29.95	-
Vol 2 - ages 5 to 8	29.95	-
Vol 3 - ages 8 to 12	29.95	-

(All reviewed Issue 48 - Jan '89)

From DATABASE EDUCATIONAL SOFTWARE:
*A Fun School 2 series of three discs or tapes each
containing 8 educational programs (Rev'd Jul 89).*

Fun School 2 - Under 6	34.95	24.95
Fun School 2 - 6 to 8	34.95	24.95
Fun School 2 - Over 8	34.95	24.95

THE MAGIC SWORD - Full colour reading book and
complementary child's adventure   39.95   -

THREE BEARS - graphic adventure to improve logic,
deduction and reasoning   34.95   -

CPC PERIPHERALS

AMX MOUSE Mk III - with superior ball technology and high
resolution movement this updated mouse from Database
gives total control and flexibility, and compatibility with Stop
Press. Comes with an interface for CPC owners   169.00

CPC CENTRONIX PRINTER CABLE (PL/1)
Suitable for linking a CPC to most printer with centronix ports,
eg. DMP2000, 3000, 3160 etc.
(Note: Pin 14 may need removing)   22.95

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JOYSTICK SPLITTER

Allows you to use two joysticks at the same time and take
advantage of games which have two player options
(eg. Gauntlet)   17.50

MOUSE MATS - keeps Mouse clean   19.95

MEGADEATH 1
A unit which attaches between your CPC and joystick to
provide rapid or autofire feature. It must be used with a
joystick which has an autofire capability.   19.95

64k MEMORY EXPANSION (464/664)
Converts the 464 into a 6128 (except for the ROMs) and
gives 128k of memory. Is supplied with bank switching
software in the form of RSXs to use the second 64k RAM as
storage forscreens, windows, arrays and variables. Allows the
use of CP/M Plus as supplied on the 6128.   **Temp. O/S**

256k MEMORY EXPANSION (464/664)
Converts the 464 into a 6128 (except for ROMs) and gives a
total memory of 320k. Supplied with bank switching
software in the form of RSXs. The 256k can store 16 full 16k
screens or four extra banks of 64k. Allows the use of CP/M Plus
as supplied on the 6128.   289.00

256k SILICON DISC SYSTEM (464/664)
Provides 256k of RAM disc accessible many times faster than
the conventional drive and with a greater disc capacity. It can
be logged on as drive B or in a two drive system as drive C.
Data can be transferred onto the silicon disc from a normal
disc or from RAM, application programs can then work on the
data at vastly increased speed. Will accept all normal disc
commands such as LOAD, SAVE, CAT etc.   329.00

256k MEMORY EXPANSION (6128)   289.00

256k SILICON DISC SYSTEM (6128)   329.00

JOYSTICKS

CHAMPZON ECP200 - arcade quality joystick with metal
shaft, micro-switches, two base fire buttons and two shaft fire
buttons and suction cups. Also has optional auto-quick fire
to be used with the Megadeath 1 attachment (extra)   39.95

NEW KONIX NAVIGATOR - hand-held joystick with
microswitch precision control, steel shaft and autofire feature
to be used with the Megadeath 1 attachment (extra)   39.95

STAR CURSOR - very tough, all Australian designed and
manufactured joystick with three year guarantee. Fully
micro-switched, fire buttons on base and handle. Adjustable
4- or 8-way action.   54.95

WINNER 220 - a really robust joystick with built-in precision
control. Fully micro-switched with two fire buttons on the base
and two on the stem for fast and furious action   34.95

ZIPSTICK SUPERPRO - 90% British made quality moulded
high impact plastic with self-centring actuator& eight-way
micro switches. 1.4m of cable. Left andright hand fire buttons,
steel shaft.   39.95

ZIPSTICK ELITE - a smaller, specially designed hand-held
model with similar specifications to the Superpro, but with just
one forward centrally located fire button. Has rubber pads on
base for flat surface use.   29.95

CPC MISCELLANEOUS

SCREEN FILTER   29.95

DUST COVERS - Australian made vinyl fabric dust covers in
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464 monitor and keyboard	35.00
6128 monitor and keyboard	35.00
DMP2000/2160/3160 Printer	17.00

RIBBONS

Black Nylon for DMP 2000/3000/3160	19.95
Black Nylon for DMP4000	19.95

CPC continued

3" DRIVE CLEANING KIT	19.95
CF-2 3" DISCS EACH	7.25
6128 'SEAL 'N' TYPE' KEYBOARD PROTECTOR	
Stops damaging spills etc.	29.95

— PCW —
8256 - 8512 - 9512

(The games marked with a § symbol are known to work only on the 8256/8512)

PCW GAMES

Academy (Tau Ceti II) §	65.95
ACE COMPILATION: with ACE (Air Combat Emulator, Sky War, Formula 1 & Strip Poker	39.95
Armageddon Man	57.95
Bridge Player 2150	**69.95**
Catch 23	57.95
Classic Invaders (Space Invaders style)	29.95
Classic Quest Adventures:	
Forestland (hard)	49.95
Witch Hunt (very hard)	49.95
Clock Chess '89 (strong game) - all PCWs	59.95
CP Compilation - *with 3-D Clock Chess, Backgammon, 3-D Draughts and Bridge 2000 - all on one disc*	59.95
Double T Patience - *compilation of six frustrating games including Kuala Lumpur, Poker Patience and Fourways*	64.95
Fairlight	**39.95**
Graham Gooch Cricket *(Ltd.Overs & Test Match featuring full animation of bowler, batsman and fielders)*	49.95
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Gnome Ranger	59.95
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Knight Orc	59.95
Lancelot	39.95
Mindfighter	65.95
Return to Doom *(Topologika adventure)*	54.95
Steve Davis' Snooker	54.95
Time and Magik Level 9 trilogy:	
Lords of Time, Red Moon & Price of Magik	54.95
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World of Soccer - international Soccermanagement simulation	59.95
PUBLIC DOMAIN DISCS	**17.50**

PCW YEAR DISC

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PCW EDUCATIONAL

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Better Spelling (12-16 yrs)	29.95
Biology (12-16 yrs)	29.95
Chemistry (12-16 yrs)	29.95
Giant Killer - maths adventure 10 to adult	54.95
Magic Maths (4-8 yrs)	29.95
Maths Mania (8-12 yrs)	29.95

PCW PUBLISHING

Desk Top Publisher	59.95

PCW continued

Newsdesk International	89.00

STOP PRESS
The ultimate Desktop Publishing package for PCW owners. Combine text and graphics with 'what you see is what you get' facilities. The ideal publishing software solution for home enthusiasts, schools, societies and small businesses

Stop Press (disc only)	149.00
With AMX Mk III Mouse	299.00

PCW DATABASES

Cardbox Plus	99.00
Condor One	149.00
Masterfile 8000	119.00
TAIT Database and Labeller	29.95

PCW MISCELLANEOUS

BRAINSTORM - tool for structuring raw ideas ina logical manner	79.00
DAATAFAX PERSONAL ORGANISER a Gift Pack by Kempston - with software, stylish binder, subject tabs, and starter stationery	149.00
DATASTORE II - menu-driven customised report generator, mailing list and label printer. Can be used with type styler Supertype II.	89.95
FLIPPER 2 - splits your PCW (8256, 8512 or 9512) memory into two environments and lets you flip between them, eg. between CP/M and Loco2. Not suitable for LocoScript 1.	89.95
GRAPHICS, THE UNIVERSE AND EVERYTHING... This latest version (2.0) provides the means to create professional graphics output and more. Source code included (All PCWs)	75.00
LIGHTNING BASIC PLUS - turbo charge your Mallard Basic (All PCWs)	75.00
MASTER PAINT - deluxe graphics program, for use with either mouse or keys	49.95
MINI OFFICE PROFESSIONAL - the PCW version of the highly successful Mini Office II with Spreadsheet,Wordprocessor, database, graphics and communications	149.00
MONEY MANAGER PLUS - cashbook/personal accounting	99.00
NEWWORD2 - PCW WordStar equivalent	100.00
PCW TOOLKIT - allows you to examine and alter data on any PCW disc as well as copy part or all of a damaged or corrupted disc for repair. Full instructions provided.	69.95
PERSONAL EXCELLENCE PACKAGE - High quality mental performance analyser	109.00
PRINT MASTER PLUS - create your own Banners, Letterheads, Signs, Calendars or Greeting Cards with graphics or borders supplied. (Runs under CP/M Plus only)	59.95
PROTEXT FILER - pop-up database for Protext	59.95
PROTEXT OFFICE - as Protext Filer but with mail-merge and invoice generator module	79.95
PROTEXT PCW	149.00
PROSPELL PCW - spellchecker for most word processors incl. WordStar and LocoScript	79.95
SCRATCHPAD PLUS spreadsheet	99.00
STARTRACK - tracks you through 88 constellations and more than 600 stars	54.95

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Order value over $50	$5.50	$10.00

PCW continued

SUPERTYPE II - 8 new different typestyles for use with all CP/M, LocoScript 1/2, LocoMail and Mini Office Professional files	39.95
TAIT ACCOUNTING SYSTEM - small business Debtors, Creditors and Invoicing	99.00
TEMPDISC - a disc full of instant templates exploiting LocoScript to the full. Provides a wide range of heading styles, agendas, invoices, borders and documents:	
Tempdisc 1 (needs Loco1)	59.95
Tempdisc 2 (needs Loco2)	59.95
Tempdisc 8.2 (needs Loco2, Locomail and 8512)	67.95
Tempdisc 9 (for 9512)	67.95
TOUCH 'n' GO - typing tutor	69.00

PCW PERIPHERALS

8256/512 'Seal 'n' Type' KEYBOARD PROTECTOR	
Stops damaging spills etc.	29.95
9512 'Seal 'n' Type' KEYBOARD PROTECTOR	
Stops damaging spills etc.	29.95
CPS8256 SERIAL INTERFACE for PCWs for communications or adding extra printers	145.00
AMX MOUSE plus interface - the most popular and sought after peripherals for your PCW, especially with Stop Press	165.00
PCW JOYSTICK INTERFACE from Kempston	49.95
SCANNER - Master Pack - a scanning device which attaches to a PCW printer head to copy photos or other art work, Master Scan software and MasterPaint, a powerful graphics package. Compatible with Desktop Publisher, FSE and Newsdesk International (8256 and 8512s only)	279.00
SCREEN FILTER	29.95

PCW DUST COVERS

Australian made vinyl fabric dust covers complete for the following PCWs:

8256/8512 monitor, keyboard and printer	55.00
9512 monitor, keyboard and printer	60.00

PCW TASMAN RANGE

Tasword 8000	69.95
Tas-spell 8000	49.00
Tasprint 8000	39.00
Tas-sign 8000	69.95

PCW CONSUMABLES

PCW 8000s PRINTER RIBBONS	
Black Carbon/Multistrike or Nylon	19.95
Coloured Nylon - Blue, Red or Green	24.95
PCW 9000s PRINTER RIBBONS	
Black Carbon/Multistrike	15.95
Black Nylon	19.95
DAISY WHEELS FOR 9000s	
Prestige Pica 10; Prestige Elite 12; Courier 10; Cubic Pica 10; Mini Gothic 15/Micro; Orator 90%/10; Letter Gothic 10/12; Script 12 each	19.95
3" DISC DRIVE CLEANING KIT	19.95
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PC

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PERSONAL BANKING RECONCILER   29.95

PERSONAL POSSESSIONS INVENTORY   29.95

PIC TRIVIA †   34.95

PRINT MAGIC †   49.95

PRINT SHOP - *over one million copies sold of this easy to use personal graphics package. 8 type styles, 9 borders, dozens of pictures to create personal cards etc.* †   89.95

PRINT SHOP COMPANION - *adds a calendar to Print Shop (monthly and weekly formats) plus facility to edit existing Print Shop graphics*   84.95

PRINT SHOP GRAPHIC LIBRARIES

Disk 2 - *symbols for hobbies, occupations, travel, music and health* †   54.95

Holiday Edtn - *70 graphics for Christmas, Hanukkah, New Year, 10 new typefaces, 14 borders & 12 full panel designs* †   54.95

School & Business Edtn - *over 100 eye-catching pictures for the office or student environment* †   54.95

PRINT POWER - *multi fonts & borders*   69.95

PUBLISH-IT - *a fully integrated, full featured desktop publisher with page layout, word processing, typesetting and graphics all in one package. Accepts imports from Word, WordPerfect, Lotus 1-2-3 graphic files. Over 1200 possible typestyle to choose from.* #   299.95

PUBLISH-IT LITE - *a simpler version of Publish-It having all the main features for those wanting to do straightforward publishing for practical purposes. (3.5" swap facility)*   89.95

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People, Places and Things (over 250 pics) #   59.95

Symbols and Slogans (over 450 pics) #   59.95

Educational Graphics (over 200 pics) #   59.95

Design Ideas (over 85 layouts) #   59.95

SPLASH - *a VGA paint program with over 256000 colours which makes full use of the incredible high quality VGA graphics. 60 pattern and brush sizes, flip, stretch, fill, zoom, merge.Compatible with most DTP programs* #   199.00

Tasword PC - *word processor* †   99.00

Tas-spell PC - *spell checker* †   95.00

Tas-print PC - *style writer* †   95.00

Tas-sign PC - *sign maker* †   95.00

Tascopy PC - *graphics editor* †   95.00

PC PUBLIC DOMAIN

PC-SOFT #1 - 19 Basic2 utilities and games	5.25"	12.50
PC-SOFT #2 - 8 games for all Amstrad PCs -	5.25"	12.50
	3.5"	15.00
PC-SOFT #3 - 24 utilities for all Amstrad PCs -	5.25"	12.50
	3.5"	15.00
PC-SOFT #4 - 6 games for all Amstrad PCs -	5.25"	12.50
	3.5"	15.00
PC-SOFT #5 - 23 utilities for all Amstrad PCs -	5.25"	12.50
	3.5"	15.00

—— PC continued ——

PC JOYSTICKS

ANKO PRECISION JOYSTICK: *top of the range - with free floating or auto centring operation modes, dual axis trim controls for accurate control of cursor/aiming/movement, two fire buttons on base and one on stem and rubber feet for surface grip*   49.95

ANKO STANDARD JOYSTICK: *mid-range priced joystick with fire button on base and one on the stem, dual axis controlsfor accurate movement, and rubber feet for surface grip*   39.95

JUNBO JOYSTICK: *the smallest inthe range but just as accurate, with auto return centring and fine tuning to adjust movement control, long life variable resistor control, two fire buttons,suitable for hand held control*   29.95

KONIX SPEED KING - *hand-held (in the left hand) for a natural grip and total control. Microswitched twin fire buttons positioned under trigger fingers. Free or self centring solid steel shaft. Autofire feature.*   49.95

Please note that with the exception of the Amstrad PC20 all other Amstrad PCs require a joystick card to be fitted

MISCELLANEOUS

DISKS

Verbatim "Valuelife" 3.5" (packs of five)   per pack...17.50

KAO "Amstrad User" 5.25" (packs of ten)   per pack...22.50

DISK DRIVE HEAD CLEANERS

3.5" for PPC, PC20 or PC2000s   17.95

5.25" for PC1512/1640   17.95

JOYSTICK GAMES CARD: *Easily fitted - allows the use of an IBM style joystick on your Amstrad PC.*   49.95

PC1512/1640 'SEAL 'N' TYPE KEYBOARD PROTECTOR Stops damaging spills and dust   29.95

MODEM - *Amstrad's MC2400 (V21, V22, V22 bis and V23 2400 bps). Works with any IBM compatible and comes with communications software.*   399.00

SCANNER - *GS4500 Geniscan includes 400 dpi scanner and controller, Scanedit 2 software, Prodigy OCR software and Dr. Genius software. Features auto merge function for large size images and direct scanning*   499.00

DUST COVERS

Australian made vinyl fabric dust covers in light grey for the following equipment: (please state your printer)

PC1512 or PC1640 monitor and keyboard	36.00
PC20 system/keyboard	18.00
PC2086 monitor/system and keyboard	39.00
PC2286/2386 mon/system and keyboard	39.00
DMP3160 or LQ3500	17.00
DMP4000 or LQ5000	30.00
Epson LX-800 or Star NX-1000	17.00
Epson LQ500	17.00

DISK DRIVES/CARDS

FOR PC1512 or PC1640

(The PHDs also suit PC2086s without hard disks)

20mb Portable Hard Drive on a card *	849.00
30mb Portable Hard Drive on a card *	929.00
20mb Internal Hard Disc *	725.00
30mb Internal Hard Disc *	789.00
* Add $15 for certified post and insurance ($25 overseas)	
720k 3.5" int. disc drive **	289.00
720k 3.5" Ext. disc drive **	385.00

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Order value from $20 to $50	$3.50	$6.00
Order value over $50	$5.50	$10.00

—— PC continued ——

360k 5.25" Disc drive kit **	375.00
FOR PC20 and PC2086	
360k 5.25" External disc drive **	339.00
720k 3.5" External disc drive **	339.00
FOR PC2286 and 2386	
1.2 mb 5.25" External disc drive **	395.00
1.44mb 3.5" External disc drive **	395.00
** Add $10 for certified post and insurance ($20 overseas)	

MATH CO-PROCESSORS

8087-2	XT - 8MHz		369.00
80287-8	AT - 8MHz		595.00
80287-10	AT - 10MHz		689.00
80387-16	16MHz		1145.00

MICROSOFT RANGE

Chart †	550.00
Excel for Windows #	849.00
Learning DOS †	95.00
Multiplan #	345.00
Project #	695.00
QuickBasic Compiler †	185.00
QuickC †	185.00
Windows 286 †	195.00
Windows 386 #	345.00
Word †	675.00
Works #	299.00
Word Exchange †	119.00

— BOOKS —

CPC TITLES

Advanced User Guide	21.95
Childs' Guide to the Amstrad Micro	13.95
Disc System, The Amstrad CPC 464	28.95
Filing Systems and D/Bases for the CPC464	30.95
High Energy Programs for the Amstrad	9.95
Ins and Outs of the Amstrad	23.95
Machine Language for the Absolute Beginner	23.95
Practical "C"	29.65
Ready made Machine Language routines	23.95
Starting Basic - Bk 1	19.95
Sound, Graphics & Handling - Bk 2	24.95
Watson's Notes Series (for younger readers)	
Book 1: First Steps in Basic	17.95
Book 2: Exploring Basic	17.95
Book 3: Computer Games	17.95
Whole Memory Guide - 464	30.95

LOGO TITLES

LOGO Pocketbook	17.95
Practical Logo on the Amstrad	27.95
Using DR Logo on the Amstrad	37.95

PCW TITLES

Advanced LocoScript on the PCWs	39.50
Desktop Publishing with the PCW	35.95
All in one business computing with the PCW and Mini Office Professional	37.95
Locomail User Guide - new version	54.95
LocoScript Pocketbook	17.95
LocoScript2 and the Amstrad PCW Computers - a complete guide	43.00
LocoScript2/LocoMail/LocoSpell: assignments and solutions	32.95

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Mallard Basic - Introduction and Reference by Locomotive Software	39.50
Mastering the Amstrad PCW 8256/8512	32.25
Pocket Wordstar	30.95
PCW Machine Code	**39.95**
Program your PCW	32.95
Using Databases on the PCW	35.95
Word Processing with the PCW	27.95

CP/M TITLES

CP/M Plus Handbook - Operator's and Programmer's guide for the Amstrad CPC6128 and PCW 8256 and PCW 8512 (Soft 971) by Digital Research Inc. *Over 500 pages of everything you need to know about CP/M Plus. Includes a GSX supplement*	52.95
Choosing & Using CP/M Business Software (for PCWs)	35.95

PC TITLES

Abacus Books for Beginners:	
GW-Basic for beginners	36.95
Lotus 1-2-3 for beginners	36.95
Microsoft Works for beginners	36.95
Microsoft Word for beginners	36.95
MS-DOS for beginners	36.95
Unix and Xenix for beginners	36.95
Ventura for beginners	36.95
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GW-Basic	24.95
Lotus 1-2-3	24.95
MS-DOS	24.95
MS Word	24.95
Word Perfect	24.95
Amstrad PC1512 - User's Guide	32.00
Amstrad PPC Companion	36.95
Adv. Basic2 Programs on the Amstrad PC	35.95
Basic2 User Guide by Locomotive Software	39.95
Business Computing with the PC1640	44.00
Business Presentation Graphics on the PC1512	55.00
Communications with the Amstrad PC	44.00
DOS Plus Reference Guide for PC-DOS, MS-DOS and CP/M Programmers from Digital Research	75.00
Exploiting MS-DOS on Amstrad PC and IBM compatibles	46.65
Lotus Agenda	39.95
PC System Programming for developers: an encyclopaedia for DOS programmers	69.95
PC1640 Technical Reference Manual	49.50
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Program your PC	32.95
Simple Basic2 Programs on the Amstrad PC1512/1640	29.95
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dBase III Plus	**44.95**
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Multimate Adv II	**19.95**
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Managing your Computing: a practical handbook	50.00
Microcomputer - troubleshooting & repair	48.95

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Complete intoductions comprising audio tapes, disks and text

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Amstrad PPC 512 and 640	59.95
Amstrad PC20	59.95
Amstrad PC 2086	59.95
Amstrad PCW 8256/8512 with LocoScript 1	59.95
Amstrad PCW 9512 with LocoScript 2	59.95

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CP/M Computing on the PCW	59.95
Complete intro to IBM PC/XT/AT & compats.	59.95

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MINI SUPER CLEANER - a small hand-held vacuum and/or blower to clean out difficult to reach areas such as a keyboard. Small brush and pipette attachments supplied.
*Requires 2 x 1.5 volt batteries - not supplied*   27.95

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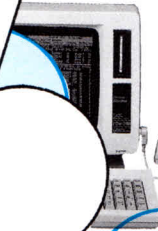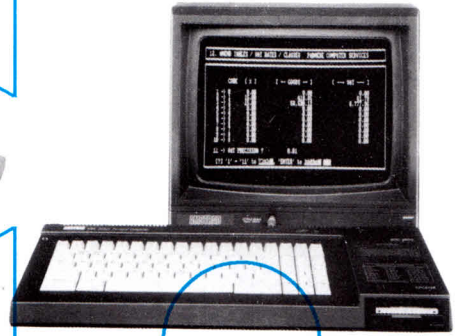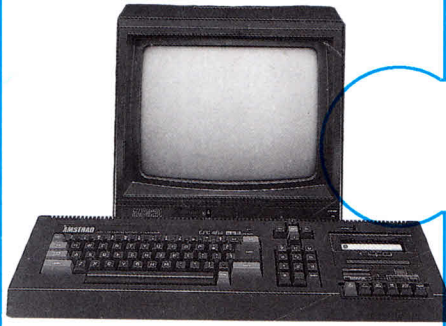
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