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for Amstrad owners

# THE AMSTRAD USER

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Issue No. 69 \$4.50

October 1990



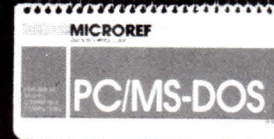
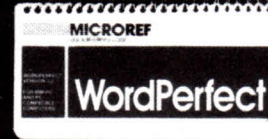
● *The PC3286 - a full review inside*

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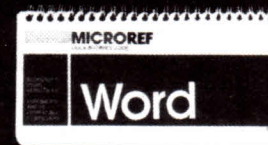
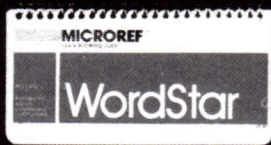
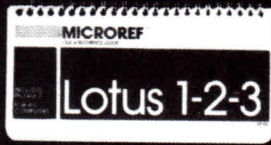
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# THE AMSTRAD USER

Issue No. 69 - October 1990

**FRONT COVER:** *The Amstrad 3286 computer, just one model from the new 3000 series for which you will find a full review on page 46 of this magazine.*

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All enquiries and contacts concerning this Publication should be made in the first instance by writing to The Amstrad User, 641 High Street Road, Mount Waverley, Victoria 3149, Australia. Urgent matters can be phoned through on (03) 803 9661.

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The subscription rate (for Australia) is \$45.00 for 12 issues of the magazine only, or \$80.00 for 12 issues of the magazine plus tape (for CPC range only) containing programs appearing in that issue. Postage is included in the above prices. For subscriptions to New Zealand, PNG, Solomon Islands or Vanuatu please add \$24 airmail. Other overseas prices available upon application.

Please note that whilst every effort is made to ensure the accuracy of all features and listings herein, we cannot accept any liability whatsoever for any mistakes or misprints. Contributions are welcome from readers or other interested parties. In most circumstances the following payments will apply to published material: Cartoons \$10.00 and a rate of \$15.00 per page for programs, articles etc. unless otherwise previously agreed.

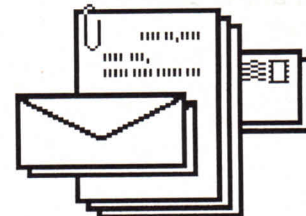
Contributions will not be returned unless specifically requested coupled with a suitable stamped and return addressed padded bag (for tapes or discs).

*The Amstrad User is an independent Australian magazine, in no way affiliated with Amstrad or their Australian distributors or any dealer in either software or hardware (The Amstrad User Shop excepted).*

**Don't miss out on TAU's Suicide Sale! (Details on pages 8&9, 24 and 49)**



# 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 have an Amstrad PC1640 ECD SD to which I have added a second disc drive. I now feel the need to upgrade the system; as in the future I wish to use the computer for CAD, more advanced language programming, word-processing and databases. I would appreciate your advice on the options open to me bearing in mind that I have a limited budget.

*Eric Tytherleigh, Kelmscott, WA.*

*As with anything worthwhile it all depends on the budget that you have in mind. Some would suggest that for serious CAD work you need a computer with at least a fast 80286 processor and a high resolution monitor. However we assume you already have that. After all, the PC1640 is over twice as fast as the old IBM PC and you were wise to choose the EGA monitor; this is the minimum that we recommend for CAD work.*

*The first addition that any PC owner should consider is a hard disc. Once you have one you'll wonder how you ever did without. File access is quicker than a floppy disc. More importantly for CAD applications and databases which generate large files, you will not be limited by the size of the file. With prices around \$550, a hard disc will cost little more than an add-on floppy drive: you can recoup part of the cost by advertising your second floppy drive in our Classics.*

*CAD applications use lots of*

*memory and perform lots of calculations so these are the next items that you are likely to need to upgrade. Calculation times can be dramatically reduced by the addition of an 8087 numeric co-processor, if your software supports it: it won't make any difference to packages that don't know how to use one! You will need an 8087-2, (the 8MHz version); these can be bought for around \$300. Since you already have 640kb of memory, the maximum that DOS can address any expansion would have to be by means of an EMS board which again will only work with software that knows how to use it. We would leave that until you find the need for it.*

*Finally, if you are still frustrated by the speed of applications you will need to consider upgrading to an 80286 or 80386 processor instead of the 8086 fitted to the PC1640. Typically a 12MHz 80286 will run applications at around 4 times the speed of the PC1640 (8.5 times faster than an IBM PC). Ideally you should get a machine designed around the processor although there are accelerator boards available to fit into PCs.*



*I'm sure many readers try altering the Interleave Factor of their Hard Cards to optimise the performance. Presumably the disc is tested for each interleave set. A word of caution, if the performance is tested using Coretest and*

*Spintest. After changing the Interleave and restoring some files, do a Reset BEFORE running either of Spintest or Coretest. Without the reset, the results are, to say the least, optimistic! One result on a 1640 with Miniscribe 8438 HD, before a reset, gave 251 KB/Sec and an Index of 3.373. After a reset, and subsequent bootups, the tests returned a much more reasonable figure of 97 KB/Sec and an Index of 1.409.*

*Can the experts please explain why this should be?*

*H. Sachs, East Malvern Vic.*

*We suspect that the reason Spintest/Coretest give exaggerated reports of disc performance is due to the Mouse driver being loaded. Because the mouse driver affects the clock ticks, programs such as Spintest/Coretest which use the clock give results which are out by a factor of 3.*

*If you run the programs without the mouse driver being loaded then the results should be more accurate. Your figure of around 100k per second (for an RLL drive) indicates that you have the correct interleave set. MFM drives may achieve around 70 Kb/sec.*



*I have been a subscriber to your fine magazine for just over four years, and this is the first time I have had cause to write to you. I have two items that may be of some interest to your readers.*



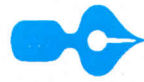
In the April '89 issue you had an article describing an 8K upgrade for the DMP2000 printer. I installed the modification as per the articles instructions and I am happy to say that I have had no problems whatsoever. My thanks to Mr. R.S. Hamilton for making this information available.

Having upgraded from a CPC464 Mini Office II to a PC1512 with the Ability package, I found that I could not set the line spacing from within the Ability program. After much experimentation using DEBUG under MS-DOS I was able to hack the printer driver sub-program to produce the output that I required. I found that by changing all &1B,32 (1/6" paper feed) to &1B,31 (7/72" paper feed) and selecting the Epson LQ printer option, I now have an acceptable NLQ output on my DMP 2000 printer. It also supports sideways printing. With 11" paper it is best to set the left margin to 5, right margin 74 and the page length to 46 lines.

I hope these few hints will save some of your readers the frustration that I encountered with this

leap forward in technology. Keep the mag coming and I'll keep subscribing.

*J W Findlay, Greenbank, QLD.*



My family owns an Amstrad 1640. When we got the computer we were told not to take out the disc or put it in when the green light is on. My brothers pay no attention to this rule. They say it is OK to do it because the drive is making no noises. Please tell me which is right? I look forward to your reply in the September mag. Thank you for your help.

*Ruth Gould, Boronia, Vic.*

*Looks like you'll be able to experience the pleasure of saying "I told you so!", because you are absolutely right. It may not have caused any immediate damage and may never if you are lucky, but as with any rules they are made for a reason. It's best to take that little extra effort to follow them just in case. (Sorry we couldn't reply sooner, we received your letter a little too late to include it in September's issue.)*



Congratulations to you all at TAU for including the GW-BASIC type-in, "Box Clever", in your June issue. I own a PC20 and I think more emphasis should be placed on PC's. This type-in is a classic example of what should be there.

*Matthew Young, Colonel Light Gardens, SA.*



The attitude shown by your comment (TAU August 90 p.6)'...that the PCW is not really a games computer' is uncalled for. While I predominantly use my PCW for Wordprocessing and DTP, I also enjoy leisure computing.

The PCW as a computer can run any type of program that is written for it (check out the games for sale in the English magazines). For me at least, the lack of colour is more than compensated for by the superior resolution. I would dearly like to see a game like "Knight Lore" (CPC) running on the PCW, ("Head Over Heels" is reported to be similar but is not available in Australia).

## PEN PALS

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

<b>Chris Bevan</b> (CPC) 9 Blume Terrace Mount Gambier S.A. 5290	<b>Stephen Phillipson</b> (CPC) 16 Julia Drive Bunbury W.A. 6230	<b>Paul Tacey</b> (CPC) RMB 5134 Shepparton Vic. 3631	<b>Stewart Wicks</b> (PCW8256) 36 Burnham St Belfield N.S.W. 2191
<b>Craig Bridgman</b> (6128) 22 Atkin Street Melton Vic. 3337	<b>Corey Powell</b> (CPC464) 24 Campbell Street Shepparton, Vic. 3630	<b>Kenny Thomas</b> (CPC) 35 Doreen Street Christchurch 7 N.Z.	<b>Hilary Tipping</b> (PC 2086) 59 Ely Street Revesby N.S.W. 2212
<b>Deon Cameron</b> 30 Ann Street Coffs Harbour, NSW 2450	<b>Damian Roy</b> (CPC464) PO Box 350 Mansfield Vic. 3722	<b>Daniel Treacy</b> (CPC6128) 25 Kegworth Street Leichhardt N.S.W. 2040	<b>Dan Glass</b> 27 The Cove Road Marino SA. 5049
<b>Thorsten Gehrke</b> (6128) 10 Dillon Street Redwood Park S.A. 5097	<b>Jason Sefton</b> (CPC464) RMB 2087 Lancaster Road Kyabram Vic. 3620	<b>Craig Westbury</b> (6128/PC) 30 Addison Road Hove S.A. 5048	<b>Mark Pettigrew</b> (CPC464) 384 McQuarrie St Invercargill, NZ.
<b>Richard Jacquemin</b> (464) 177 Railway Avenue Kelmescott W.A. 6111	<b>Andrew Shirzad</b> (CPC464) 16 Harkaway Rise Doncaster East Vic. 3109	<b>Reg Wilson</b> (CPC6128) 41 Albury Street Townsville Qld. 4812	<b>Michael Quinn</b> (PC1512) 3/32 Harbourne Rd Kingsford, 2032
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<b>Chris Maloney</b> (464 & PC) 20 Helena Court Rye Vic. 3941	<b>Corey Whisson</b> (PC 1512) Lot 134 Utley Rd Serpentine W.A 6205	<b>McNeil</b> (464, PC-20) 1 Hawkins Street Chatswood Hills Qld. 4127	<b>Glenda Conner</b> (CPC 6128) 130 Harvey St Invercargill, NZ.
		<b>Peter Joyce</b> (CPC 464) 1 Frith Place Goonellabah N.S.W. 2480	



Despite what I have said above, I wish to thank you for the level of software support you do offer for the PCW. Without TAU there would be practically none.

*Peter E Scofield, Casino, NSW.*

*"Head over Heels" was available through this very magazine some time ago, and despite our attempts to get supplies from the UK, it seems to have 'died a death' over there. The point we were trying to make was that if the PCW was a games machine there would be far more then the current dwindling collection available. However, to bring a smile to your face and other PCW owners, two classics - Starglider and Jinxter - have been scooped by The Amstrad User and are available for the next two months for an unbelievably cheap price. Check out Page 24!*



My machine uses Locomotive Software's LocoScript V1.20. I want to add a spelling option to which I can add additional words of interest to me. Please advise which units would perform this function and, if both do, the advantages of one over the other.

## CUE THREE SOFTWARE

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Secondly I want to add software that will allow me to prepare cards, banners, letterheads etc. Will Printmaster Plus make this possible and/or is there an alternative? And what of the Desk Top Publisher?

Finally I want to use graphics on my machine and the machine manual, Book 1, page 60, refers to Soft 971: 'A Guide to CP/M Plus' which apparently details the necessary GSX's controls which, it says, are beyond the scope of the (machine) manual. Is this the same as the 'CP/M Plus Handbook' referred to in the 'User' page 63? It appears to cover the same ground. If not, do you have the book referred to and its price? Any descriptive material would be appreciated.

*A.H.Nash, Como, NSW*

*Both Tasword 8000 and Prospell PCW have user defined dictionary facilities. However, neither program can be used within LocoScript, and it is first necessary to convert the file(s) to be checked to ASCII format. There is little to choose between the two although Prospell has the edge on speed. To use Locospell 2, you need to purchase LocoScript 2.*

*Secondly, Printmaster Plus will allow you to create banners and simple stationery requirements. Tas-sign 8000 is more flexible in terms of banners and posters. A desktop publishing system such as The Desktop Publisher, Stop Press or Micro Design 2 is essentially used for newsletter production or the like, but can also be used for more complex stationery needs.*

*Finally, the CP/M Plus Handbook is the updated version of Soft 971.*



Over the past few months my friend Boris and I have had large arguments over the one but very important topic. Boris owns a Commodore 64, approximately 4-5 years old, whilst I own the good old trusty, reliable and absolutely brilliant Amstrad CPC464 which is 5 years old. Now the topic of our

dispute is; which is better, the Amstrad 464 or the crummy Commodore 64?

Now, I turn to The Amstrad User for your unbiased opinion, (which may or may not contain vital facts) on which is the better of the two. With your truthful and unbiased opinion I should be able to convince him to burn his Commodore 64 and buy an Amstrad.

Also, recently I have come to the conclusion that my 464 needs expanding and I have two questions; 1) To what capacity can the 464 be expanded, by using either pre-built or custom built expansion units.. (infinity even?); 2) Once expanded what are the advantages? Eg, Is there a broader selection of colours and greater sound capabilities. And what are some of the disadvantages? For example, would it be necessary for me to buy new hardware? Your answers would be greatly appreciated. Long live the 464.

*Daniel Hallett, Westdale, NSW.*

*Expanding your 464 is not going to give you more colours or better sound (neither on a Commodore). By adding an expansion unit, say 64k, programs which consume more memory than your current configuration will allow can be run. For example, the desktop publishing system "Stop Press", the database system "Masterfile 3" or the spreadsheet "Mastercalc". Some games too require 128k such as "Carrier Command". But the sad fact is that Amstrad Australia have not imported any CPC computers for well over a year. They don't intend to either, despite the fact that the new 464 Plus and 6128 Plus and the Amstrad GX4000 console have just been released in the UK.*

All correspondence should be addressed to:

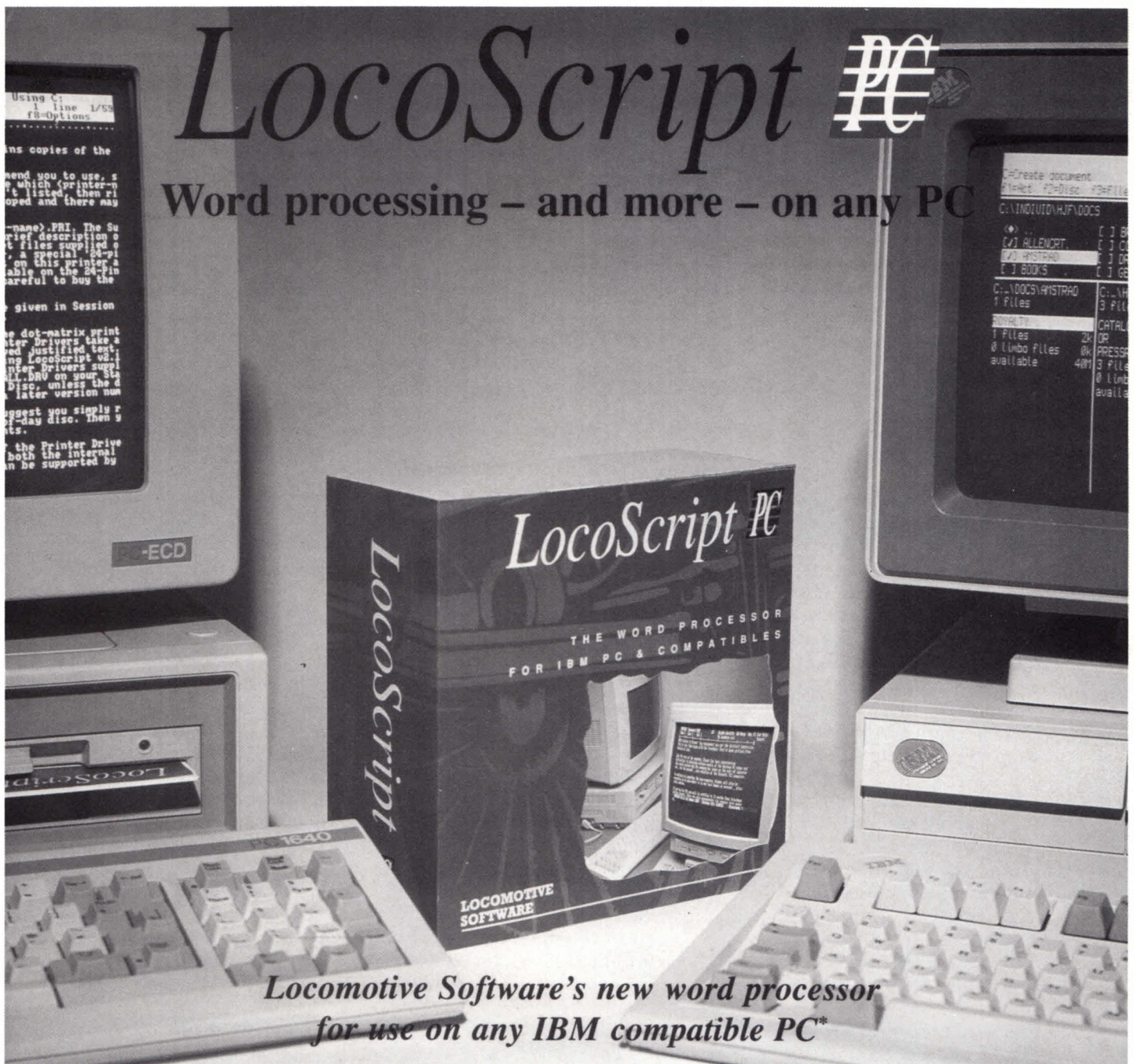
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We regret we cannot give any personal replies.



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*Easy for existing PCW users: LocoScript PC has the same distinctive style as the LocoScript you are familiar with, but operates much faster than the PCW. It will accept your existing LocoScript files.*

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**PH: (03) 803 9661**

*\*LocoScript PC runs on any PC with at least 512K RAM, DOS 3.0 and one floppy disc drive. All standard monitors are supported.*



# News Break



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

## HAVE WINGZ, WILL FLY

Informix are providing stiff competition for Microsoft Excel by announcing that Wingz, the best-selling spreadsheet from the Macintosh world, is to appear on the PC, running under both Windows 3.0 and OS/2 Presentation Manager. Meanwhile 3-for-3 looks to effectively do the same for Lotus 1-2-3.

Informix claims Wingz is the 'first graphic spreadsheet to fully exploit Windows 3.0..., PC users can for the first time easily combine text, numbers, 3D graphs and imported images on one page with one product.' Wingz uses HyperScript, described as an application development language

more powerful than the macros familiar to Excel and 1-2-3 users.

The package supports DDE (Dynamic Data Exchange) which means text, cells, cell blocks and graphic images can be linked to other Windows or PM applications and be automatically kept up to date. It also supports Informix's Wingz-Datalink system allowing direct access to local or remote SQL databases.

Although 1-2-3 itself has not been implemented for Windows 3.0, users can now take full advantage of the Windows environment thanks to a remarkable program called 3-for-3. 3-for-3 uses the fact that Lotus engi-

neered Release 3 of 1-2-3 to function in a wide variety of environments. It provides a set of special Windows drivers that enable Release 3 to operate as a standard Windows 3.0 application.

This means that 1-2-3 can be run in a resizable window and take full advantage of Windows fonts and print drivers. Users are provided with standard Windows pull-down menus and mouse support, although all standard keystroke sequences are the same. Graphs and cell ranges can be linked to other applications using DDE and, as with any Windows 3.0 application, has up to 16 Mbyte of RAM at its disposal.

## LOCOSCRIPT PC

You may recall previous mention of the forthcoming release of Locomotive's software, LocoScript PC. Basically a new and improved version of the PCW word-processor, LocoScript PC has a wide variety of innovative features including on-screen text layout, search and replace, a fully integrated card index style Database, and a Mailmerge and Report writing system, to name a few.

To coincide with the release of the software, you will find more details in a full review on page 42 of this issue of TAU.

## ON THE DATAFLOW SCENE

The two bestselling early learning programs, McGee and Katie's Farm, are now due to be released by Dataflow. They contain the exciting adventures of McGee in his house and, as the name suggests, when he visits Katie's Farm. No words are used, the program allows the children to explore the scenes and discuss the contents. They are bound to be very popular in schools and at home for story starters and teaching children about the computer. (The two programs will be reviewed in a future issue.)

Often, a software publisher comes along with a range of products which are just a bit different from the norm. In this case, it's Miles Computing. Their programs are quite original compared to mainstream adventure games or educational programs.

Among the new-to-be-released range, the Miles Computing selection includes the popular Living Jigsaws, which is an animated jigsaw puzzle game. It adds an extra element of surprise and fun to the classic entertainment of jigsaw puzzles.



## HERE IT ISN'T

Six long years have passed since the Amstrad CPC range was introduced to the home computer market, and those years have seen considerable changes in the requirements of computer users and the development of software being made available.

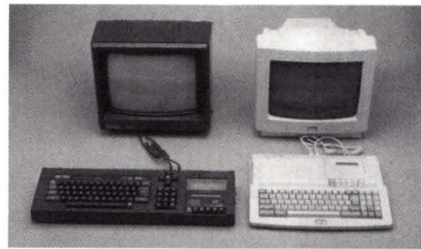
Acknowledging this, Amstrad are keeping up with the growing computer industry by releasing their new CPC range - Amstrad Plus.

The improved and additional features of the range are many, including a complete restyle, cartridge port, improved expansion ports, enhanced sound and graphics, an extra joystick socket and a game controller thrown in. The chip count has even been reduced, from 25 to just 9!

Yet whilst the new CPC computers show great technological advancement, Amstrad take care in emphasizing that this does not render veteran CPC machines

obsolete. They have taken the old CPC's and ADDED to them, not replaced them. This means that original software can still be used on either machines without necessarily requiring an upgrade.

When can you expect to see the new machines in the shops? Don't hold your breath. Unfortunately the new range will not be hitting our shores at all, so although the release is becoming quite an event in the UK, Australian Amstrad owners will be left pretty much in the dark. All complaints to Amstrad Australia on (02) 316 5282.



The original CPC with the Amstrad Plus.

## ULTIMATE PRIZE

Congratulations to W.J (Bill) Adams, from Hallett Cove in South Australia, whose winning envelope was drawn from our bundle of Ultima VI competition entries.

Since the publication of our August magazine, the entries for the Ultima VI competition have been flooding in. As our competition winner, Bill will receive a special limited edition of Ultima VI which is one of only six that have been created by Origin to celebrate their first ten years of production. The game has been autographed by both the author and chief artist.

The package contains a cassette recording in which the author speaks about the development of the Ultima series, an "Orb of the Moon" gem stone, a certificate, a printed cloth tapestry depicting Britannia, and of course Ultima VI, the game itself.

## STARBLAZER

From Multicoïn, the Australian company that brought you the "StarCursor" joystick, comes "StarBlazer", a joystick even faster and more accurate than its worthy predecessor. Featuring Microswitch fire buttons, compact design, a new ergonomic pistol grip, non-slip suction cups, 180 degree swivel handle and three way switching, StarBlazer will be available from retail outlets for \$44.95 within the month.

## SUICIDE SALE

Just a brief note to point you in the direction of pages 8&9, 24 and 49 nine of this issue, where you will find a display of unbelievably low prices for high quality games. The offer lasts only as long as the stock does, so be quick in placing your order and beat the Christmas rush!

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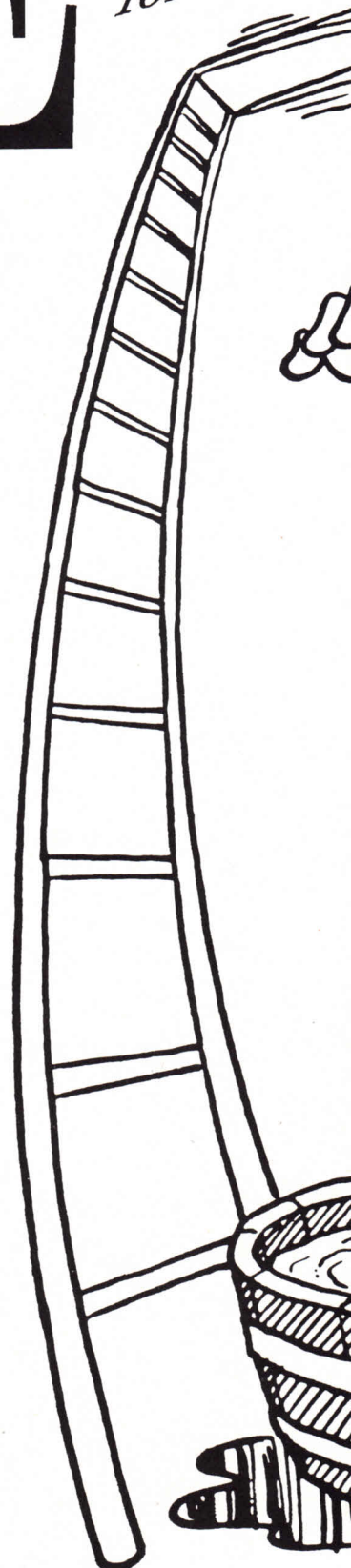
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# Setting Error Traps



*Save yourself time with these useful CPC programs that will enable you to trap errors before they trap you.*

It can be great fun programming your computer, especially when you can impress your parents/friends by making it do something ultra-intelligent. You know, the sort of thing that will make them even more convinced that all computers should be knocked on the head before they succeed in taking over the human race - as if they haven't already... already... already... thump. Hmmm. Must get that seen to.

One of the more impressive, and more intelligent, features of Locomotive Basic is its excellent error-trapping facility.

ON ERROR GOTO, to give 'it' a name, is followed by a line number, and it does exactly what it says it does: if an error of any kind occurs whilst the program is running, then instead of upsetting the user by crashing, it whizzes off to line so-and-so to carry out whatever instructions it finds there.

FIG.1 - ON ERROR GOTO

```

100 true=(1=1): false=(NOT true)
110 GOSUB 500 'disc drive fitted?
120 '
130 IF disc THEN GOSUB 200
140 IF NOT disc THEN GOSUB 300
150 '
160 END
199 '
200 PRINT"Disc drive fitted."
210 RETURN
299 '
300 PRINT"no disc drive fitted."
310 RETURN
498 '
499 'detect if disc is fitted
500 ON ERROR GOTO 530
510 !DISC: ON ERROR GOTO 0
520 disc=true: GOTO 540
530 disc=false
540 RETURN
    
```

So let's get straight down to some programming with a simple, but very useful, example.

One of the most boring questions CPC464s ask you when they are running utility type programs is "Tape/Disc?" every time you want to load or save something. Obviously, if you've no disc drive fitted then you'll want to save to tape, but those of us lucky enough to have a disc drive will naturally want to use it.

Of course, one way around this

would be to ask the question just once, right at the beginning of the program, but even this is unnecessary, as FIG.1 shows.

Line 110 is the one that tells the program to wander off and check whether a disc drive is fitted. The first line it hits in the subroutine tells it to GOTO line 530 if an error occurs.

If you haven't got a disc drive, then an error will occur in the next line (510) with the !DISC command. The statement and line following !DISC are ignored because control passes immediately, due to the ON ERROR command in 500, to line 530, where the variable 'disc' is set to FALSE. The subroutine then returns as normal.

On the other hand, if you have a 664, 6128 or 464 with a drive fitted, no error occurs so line 510 is carried out in full. The ON ERROR GOTO 0 switches error trapping off as we don't need it any more, line 520 sets 'disc' to TRUE and then skips past line 530 to return from the subroutine, again, as normal.

All this is invisible to the user, so for the purpose of this example I've used 'disc' to cause different messages to appear on the screen.

Note that error trapping should only be switched off if you are sure an error has not occurred. If an error has occurred before you issue an ON ERROR GOTO 0, then the program will stop with an error message, just as if you'd never issued the first ON ERROR GOTO 530. A good example of where this function can be used is in FIG.1, where error trapping is switched off in a part of the program that can only be executed if an error has not occurred.

Okay. Before we do any more programming I want to introduce you to three keywords associated with ON ERROR GOTO. Actually, they aren't really keywords in the Command or Function sense, they are variables whose values are set up and updated automatically by your CPC: DERR, ERR and ERL.

ERR is the number of the error that has occurred. Normally this will be zero, but as soon as an error happens the computer pokes a value into memory that represents the nature of the error. Similarly,



DERR is the number of an AmsDOS error (ie: a disc read/write error).

You can investigate these numbers when an error happens simply by typing PRINT ERR or PRINT DERR. A full list of error numbers, and what they mean, is in your manual.

(Once an error number has been poked into memory by the operating system, it remains there unchanged until overwritten by another. This can cause problems sometimes, but there is a way around it).

ERL is the line number on which the error was spotted. Again, PRINT ERL will inform you of the last line number in which an error happened.

Together with ON ERROR GOTO, these three 'variables' can be put to good use. The most obvious use is to trap and report possible typing errors when typing-in or developing programs. Sometimes programs set up funny colours and awkward windows so that when it crashes the error message is unreadable. In FIG.2 is an error trapping routine which will rid you of this problem.

## TRAPPING TYPING ERRORS

The routine in FIG.2 is designed to print out numbers, the meaning of which you will need to look up in your manual; but you could just as easily turn it into a routine to print out messages according to the values of ERR:

```
IF ERR=1 THEN PRINT"unexpected NEXT"
IF ERR=2 THEN PRINT"syntax error"
:
:
IF ERR=32 THEN PRINT"broken in"
```

That's the obvious way, but a more practical way is to read in an array of 32 error messages, say msg\$(1) to msg\$(32), from DATA statements, and then a simple PRINT msg\$(ERR) would save all those IFs and THENs. What? You didn't know you could use ERR as an array subscript? It doesn't say anything about it in the manual? Tut tut. Stay behind after school and write out "I must experiment with Basic" one thousand times.

And, of course, disc users could extend this idea further to incorporate all the DERR values.

## RESETTING ERR AND DERR TO ZERO

If you've a disc drive fitted you'll need some way of resetting ERR and DERR to zero before running the program each time otherwise an old error number could cause the Error Trap to spit out an erroneous error number or message.

For instance, say on first running the program you've just typed in the Error Trap spits out a DERR number. You immediately spot the error, a bad filename and correct it. On the next run the Error Trap spits out an ERR number, plus the DERR number of the mistake you've just corrected.

As I said earlier, even though you've corrected the

mistake that caused the first DERR, its number is still there in memory, and will remain there until overwritten by a subsequent disc error. And it's the same for ERR.

You can't reset ERR or DERR by executing a line like ERR=0, but you can POKE zeros into the memory locations set aside by the operating system to hold the error numbers. Sneaky, huh?

The relevant addresses are shown in the first 4 lines of FIG.2. Play around with them. I believe the 664 addresses are the same as the 6128 ones. I'm sure you'll tell me if they're not.

## CUSTOMISING YOUR ERRORS

Of course, the built in error numbers mostly cater for errors related to the Basic interpreter and the Disc Operating System. But you can also use ON ERROR GOTO to trap user-errors (bad input for example) by means of customised error numbers.

These are set up by the ERROR keyword which is, again, a built-in variable, but this time one you can alter. You don't use the equals sign with ERROR though. The syntax is:

```
IF <something> THEN ERROR <number>
```

The numbers up to and including 32 are reserved by the system, but everything else, up to and including 255 is yours for the taking.

Type ERROR 21 and press Enter - that's one of the system's. Now type ERROR 33 - it's "unknown" because we need to introduce it to the system in an error trapping routine.

FIG.3 is a routine for trapping errors before the program attempts to load or save using a typed-in filename. It's a "filename verification" routine. The actual Error Trap is between lines 1450 and 1580, and this responds to 5 customised error numbers invoked in different parts of the program.

Let's take a look at the first one invoked, ERROR 100, in line 1290. It simply says: If the length of the filename is zero, then error 100 has occurred. Because an error has occurred the program shoots off

FIG.2 - TRAPPING TYPING ERRORS

```
1 POKE &ADAA,0 'reset err (464)
2 POKE &ADAB,0 'reset derr (464)
3 POKE &AD90,0 'reset err (6128)
4 POKE &AD91,0 'reset derr (6128)
5 ON ERROR GOTO 10000
10 '
20 'the program...
30 '
9999 'error trap
10000 MODE 1 'default mode
10010 CALL &BC02 'default cols
10020 CALL &BB4E 'paper 0, pen 1
10030 GOSUB 11000 'error number
10040 GOSUB 12000 'disc error?
10050 GOSUB 13000 'line number
10060 STOP 'halt program
10999 '
11000 PRINT"Error number";ERR
11010 RETURN
11999 '
12000 IF DERR=0 THEN 12030
12010 PRINT"Disc error number";
12020 PRINT DERR
12030 RETURN
12999 '
13000 PRINT"Detected in line";
13010 PRINT ERL:RETURN
```



# programming

the Error Trap, where it carries out the instructions it finds there.

In the Error Trap, line 1470 is ignored as the error number isn't 99; then it prints an error message.

The error message array is set up in the initialisation subroutine. In this case I've only used 5 messages, so the array is msg\$(0) to msg\$(4). Each message corresponds to a particular error, and they are stored in the array in the same order as the error numbers so we can subtract 99 (the lowest customised error number we have used) from the ERR number to get the correct subscripts for msg\$. We could just as easily have used msg\$(99) to msg\$(104), but although this makes the program more readable, we'd have to dimension the msg\$ array to 104 subscripts, which would waste an awful lot of space as msg\$(0) to msg\$(98) would be unused.

## RESUMING EXECUTION

After ignoring line 1500 (because the error number isn't 102) and printing a blank line for neatness, the program (in line 1520) is asked to go back and resume execution from line 40, where a GOSUB 1190 starts off the input sequence all over again, making the program run smoothly without any crashes.

If we had left the 40 off after the RESUME, the program would have continued execution from where it left off, ie: from the line that caused the error in the first place. In this case we don't want that as it would cause another error, and another error, and another error.....

We could also have asked the program to RESUME NEXT, which would have made it go back and continue execution from the line following the one in which the error occurred.

All three versions of RESUME have their uses, but RESUME <line number> is the one you'll probably use most. Think of it simply as a GOTO, which is all it is and you'll have no problem using it.

## CLEVER ERRORS

For ERROR 99 - which is invoked in line 1360 if there isn't a fullstop in the filename - we do something a bit clever. Instead of forcing the user to enter the name again, line 1470 in the Error Trap branches control off to a special little routine to append a default extension (.DAT).

After printing a message and appending the extension, the program is this time asked to resume execution from the line following the one the error occurred in, which is the RETURN statement in the subroutine we jumped out of because of the error.

In other words, in this part of the program we've used a customised error number not only to detect a program error - the absence of an extension in the filename - but to actually correct the error and carry on the program from where it left off.

With ON ERROR GOTO and its related keywords, you can make a program really robust - there's nothing worse when a program crashes because of bad user input.

But remember, the best, and most intelligent, error traps are the ones that go un-noticed. Error-trapping is an art. Always look on it as such and it will never become a chore. That's it. Tarra. ■

FIG.3 - CUSTOMISED ERROR NUMBERS

```
1 'Custom Errors
2 'The Amstrad User
3 'October 1990
10 GOSUB 1020 'program setup
20 ON ERROR GOTO 1470
40 GOSUB 1190 'get filename
50 GOSUB 1230 'check it
70 PRINT "Filename is ";name$
80 END
1010 'program setup
1020 n$="0123456789"
1030 l$="ABCDEFGHIJKLMNPOQRSTUVWXYZ"
1040 c$="{#%&'^@+-,.)}"
1050 legal$=n$+l$+c$
1060 maxlen=8 'for AmSDOS protocol
1070 ext$=".dat" 'default extension
1080 DIM msg$(4)
1090 FOR n=0 TO 4
1100 READ msg$(n):NEXT
1110 DATA including .dat as ext
1120 DATA no filename given
1130 DATA 8 characters max please
1140 DATA illegal char in filename
1150 DATA 3 characters maximum ext
1160 RETURN
1170 '
1180 'get filename
1190 LINE INPUT"Filename";name$
1200 name$=UPPER$(name$):RETURN
1210 '
1220 'check filename
1230 GOSUB 1290 'check length
1240 GOSUB 1400 'check characters
1250 GOSUB 1340 'check extension
1260 RETURN
1270 '
1280 'check length of filename
1290 IF LEN(name$)=0 THEN ERROR 100
1300 IF LEN(name$)>8 THEN ERROR 101
1310 RETURN
1320 '
1330 'check extension
1340 dot=INSTR(name$,".")
1350 IF dot<>0 AND LEN(name$)-dot>3
THEN ERROR 103
1355 IF dot=1 THEN n=1:ERROR 102
1360 IF dot=0 THEN ERROR 99
1370 RETURN
1380 '
1390 ' check for illegal characters
1400 FOR n=1 TO LEN(name$)
1410 a$=MID$(name$,n,1)
1420 yes=INSTR(legal$,a$)
1430 IF yes=0 THEN ERROR 102
1440 NEXT:RETURN
1450 '
1460 'error trap
1470 IF ERR=99 THEN GOTO 1550
1480 PRINT
1490 PRINT"Error - ";msg$(ERR-99)
1500 IF ERR=102 THEN GOSUB 1600
1510 PRINT
1520 RESUME 40 'get filename again
1530 '
1540 'append .dat to filename
1550 PRINT:PRINT msg$(ERR-99):PRINT
1560 name$=name$+ext$
1570 RESUME NEXT 'now carry on
1590 'show illegal character
1600 PRINT:PRINT name$
1610 PRINT SPACE$(n-1);CHR$(94)
1620 RETURN
```



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Last month left you with line 1930, so we begin this month on the same line for your convenience. Happy hunting!

```

1930 IF r=8 THEN af=0
1940 IF r=9 OR r=10 THEN ag=0
1950 IF r=11 OR r=12 THEN ah=0
1960 IF r=13 THEN ai=0
1970 IF r=14 OR r=15 THEN aj=0
1980 IF r=16 THEN ak=0
1990 IF r=17 OR r=18 THEN am=0
2000 IF r=19 THEN an=0
2010 IF r=20 THEN ao=0
2020 IF r=21 OR r=22 THEN ap=0
2030 IF r=23 OR r=24 THEN aq=0
2040 IF r=25 THEN ar=0
2050 IF r=26 THEN as=0
2060 IF r=27 OR r=28 THEN at=0
2070 IF r=29 OR r=30 THEN au=0
2080 IF all=1 THEN RETURN
2090 obj%(get%(r))=posi%
2100 RETURN
2110 PRINT"You Can't!":PRINT:RETURN
2120 RETURN
2130 PRINT"You have Artek the wizard to help you.":PRINT:RETURN
2140 RETURN
2150 IF posi%=3 AND aq=1 THEN PRINT"D.K! (iron key)":lo

```

```

ca%(posi%,4)=2:PRINT:RETURN ELSE IF posi%=3 AND aq=0 TH
EN GOTO 2180
2160 IF posi%=106 AND ag=1 THEN PRINT"D.K! (steel key)"
:loca%(posi%,1)=94:PRINT:RETURN ELSE IF posi%=106 AND a
g=0 THEN GOTO 2180
2170 IF posi%=6 AND au=1 THEN PRINT"D.K! (large key)":1
oca%(posi%,3)=7:PRINT:RETURN ELSE IF posi%=6 AND au=0 T
HEN GOTO 2180
2180 IF posi%=41 OR posi%=116 THEN PRINT"You Can't!":PR
INT ELSE IF aq=1 OR ag=1 OR au=1 THEN PRINT"That is not
the right key":PRINT ELSE PRINT"You don't have the key
":PRINT:RETURN
2190 RETURN
2200 IF posi%=56 AND ak=1 THEN PRINT"D.K! It is in posi
tion.":PRINT:loca$(56)=loca$(56)+"A rope dangles down t
he hole":sc=sc+10:GOSUB 4350:RETURN
2210 PRINT"You Can't!":PRINT:RETURN
2220 RETURN
2230 IF posi%=41 OR posi%=116 THEN PRINT"You Can't!":PR
INT ELSE PRINT"You don't have the key":PRINT:RETURN
2240 RETURN
2250 IF posi%=27 THEN PRINT"D.K! A path continues on th
e other side.":PRINT:IF bc<>1 THEN sc=sc+10:bc=1:posi%=
18:RETURN ELSE posi%=18:RETURN
2260 PRINT"You Can't!":PRINT:RETURN
2270 RETURN
2280 PRINT:PEN 3:PRINT"You have scored";sc;"points out
of 400":PRINT:RETURN
2290 RETURN
2300 IF posi%=21 THEN PRINT"It is pressure sensitive an
d causes a beam of energy to envelop you and whisk yo
u away to another location":PRINT:IF zs<>1 THEN sc=sc+2
0:zs=1:posi%=76:RETURN ELSE posi%=76:RETURN
2310 IF posi%=94 THEN PRINT"As you do so a beam of ener
gy envelops you and whisks you away to another spot":P
RINT:IF zt<>1 THEN sc=sc+20:zt=1:posi%=65:RETURN ELSE p
osi%=65:RETURN
2320 PRINT"You Can't!":PRINT:RETURN

```



```

2330 RETURN
2340 IF posi%=3 THEN PRINT"O.K!":PRINT:posi%=15:RETURN
2350 IF posi%=15 THEN PRINT"O.K!":PRINT:posi%=3:RETURN
2360 IF posi%=5 THEN PRINT"O.K!":PRINT:posi%=6:RETURN
2370 IF posi%=6 THEN PRINT"O.K!":PRINT:posi%=5:RETURN
2380 IF posi%=69 THEN PRINT"O.K!":PRINT:posi%=80:RETURN
2390 IF posi%=80 THEN PRINT"O.K!":PRINT:posi%=69:RETURN
2400 IF posi%=56 AND zr=1 THEN PRINT"O.K! You start the
long descent down butthe rope is not long enough so yo
u drop the rest of the way and land safely.":PRINT:posi
%=43:RETURN
2410 IF posi%=21 THEN PRINT"It is pressure sensitive an
d causes a beam of energy to envelop you and whisk yo
u away to another location":PRINT:IF zs<>1 THEN sc=sc+2
0:zs=1:posi%=76:RETURN ELSE posi%=76:RETURN
2420 IF posi%=94 THEN PRINT"As you do so a beam of ener
gy envelops you and whisks you away to another spot":P
RINT:IF zt<>1 THEN sc=sc+20:zt=1:posi%=65:RETURN ELSE p
osi%=65:RETURN
2430 PRINT"You Can't!":PRINT:RETURN
2440 RETURN
2450 GOSUB 1420
2460 IF as=1 THEN PRINT"You Can't!":PRINT:RETURN
2470 RETURN
2480 PRINT"You Can't!":PRINT:RETURN
2490 RETURN
2500 IF posi%=116 AND RIGHT$(z$,7)=CHR$(119)+CHR$(97)+C
HR$(114)+CHR$(108)+CHR$(111)+CHR$(99)+CHR$(107) AND bf<
>1 THEN PRINT"Well done! The door slowly opens.":PRINT:
loca%(posi%,1)=104:bf=1:sc=sc+20:RETURN
2510 IF posi%=41 AND RIGHT$(z$,7)=CHR$(101)+CHR$(116)+C
HR$(101)+CHR$(114)+CHR$(110)+CHR$(105)+CHR$(97) AND bg<
>1 THEN PRINT"Well done! The door slides open.":PRINT:l
oca%(posi%,4)=40:bg=1:sc=sc+20:RETURN
2520 IF (posi%=41 AND bg<>1) OR (posi%=116 AND bf<>1) T
HEN PRINT"That is not the right word":PRINT:RETURN
2530 IF posi%<>41 OR posi%<>116 THEN PRINT"It has no ef
fect here!":PRINT:RETURN
2540 RETURN
2550 IF posi%=100 AND af=1 AND bk<>1 THEN PRINT"O.K! Yo
u have cleared a pathway":loca%(posi%,2)=112:PRINT:loca
$(100)=loca$(100)+" with some cut away":bk=1:sc=sc+20:R
ETURN
2560 PRINT"You Can't!":PRINT:RETURN
2570 RETURN
2580 IF posi%=28 AND af=1 AND an=1 AND ba<>1 THEN PRINT
"You strike at it and kill it causing it to disappear i
n a puff of smoke.":PRINT:loca%(posi%,1)=19:ba=1:sc=sc+
20:RETURN
2590 IF posi%=28 AND af=1 AND an<>1 THEN PRINT"You can'
t! You are not powerful enough.":PRINT:RETURN
2600 IF posi%=93 AND af=1 AND at=1 AND bb<>1 THEN PRINT
"You strike at it and kill it causing it to disintegrat
e into the ground.":PRINT:loca%(posi%,2)=105:bb=1:sc=sc
+20:RETURN
2610 IF posi%=93 AND af=1 AND at<>1 THEN PRINT"You can'
t! You are not powerful enough.":PRINT:RETURN
2620 IF posi%=8 AND ab=1 AND aj=1 AND ap=1 AND ar<>1 TH
EN PRINT"You are unable to without the charm.She cannot
hurt you either so she raises herarms and disappears i
n a puff of smoke.":PRINT:zk=1:RETURN
2630 IF posi%=8 AND af=1 AND ar=1 AND ab=1 AND aj=1 AND
ap=1 THEN PRINT"You run her through with your sword.":
PRINT:sc=sc+40:ze=1:RETURN
2640 IF posi%=8 AND ar<>1 AND (ab=1 AND aj=1) OR (ab=1
AND ap=1) OR (aj=1 AND ap=1) THEN PRINT"The evil queen
laughs and raises her hands causing a flash of light
ing to hityou.However the rings protect you.":GOTO 2670
2650 IF posi%=8 AND ar=1 AND (ab=1 OR aj=1 OR ap=1) THE
N PRINT"The evil queen laughs and raises her hands c
ausing a flash of lighting to hityou.However the charm
protects you."
2660 IF posi%=8 AND ar=1 AND (ab=1 OR aj=1 OR ap=1) THE
N PRINT"Angered by your protection from the charm s
he raises her hands again and transports you to anot
her place.":PRINT:posi%=121:RETURN
2670 IF posi%=8 AND (ab=1 AND aj=1) OR (ab=1 AND ap=1)
OR (aj=1 AND ap=1) THEN PRINT"Angered by your protectio
n from the rings she raises her hands again and
transports you to another place.":PRINT:posi%=121:RETUR
N
2680 IF posi%=8 AND ar<>1 AND (ab=1 OR aj=1 OR ap=1) TH
EN PRINT"The evil queen laughs and raises her hands
causing a flash of lighting to strike you at the hea
rt.":PRINT:GOTO 3730
2690 IF posi%=109 AND af=1 AND zc=0 THEN PRINT"You kill
them with your sword.":PRINT:loca$(109)="at the witche
s haunt.The three witches lie on the ground dead.":zc=
1:PRINT:RETURN
2700 IF posi%=120 AND af=1 THEN PRINT"O.k! He is dead."
:PRINT:zj=1:loca$(120)="in a corner store.A man lies de
ad at thefoot of the counter.":RETURN
2710 IF posi%=bn AND af=1 AND ss<3 THEN PRINT"You Can't
! He is insulted by your actionand with a wave of his a
rms he vanishes with the promise you will get no more
help from him.":PRINT:zd=1:RETURN
2720 PRINT"You Can't!":PRINT:RETURN
2730 RETURN
2740 IF zc=1 THEN zb=1:PRINT"There is silence!":PRINT:R
ETURN
2750 IF posi%=109 AND zb<>1 THEN PRINT"They tell you to
give them something of value and in return they will g
ive you a powerful charm to aid you.":PRINT:RETURN
2760 IF zj=1 THEN za=1:PRINT"There is silence!":PRINT:R
ETURN
2770 IF posi%=120 AND za<>1 THEN PRINT"He says you will
need a lot of gold to be able to get the priceless it
em he has":PRINT:RETURN
2780 IF posi%=8 AND zk<>1 THEN PRINT"Smyrna laughs scor
nfully and replies....Only over my dead body will you g

```



```

at her.":PRINT:RETURN
2790 IF p$="ask art" THEN PRINT"You have only to call h
is name":PRINT:RETURN
2800 PRINT"You Can't!":PRINT:RETURN
2810 RETURN
2820 IF posi%=56 OR posi%=69 OR posi%=76 THEN PRINT"You
plunge headlong to your death.":PRINT:GOTO 3730
2830 PRINT"Yoy Can't!":PRINT:RETURN
2840 RETURN
2850 GOSUB 1420
2860 IF r=0 THEN GOTO 2870 ELSE IF obj%(get%(r))<>posi%
THEN FOR x=1 TO 6:IF inv$(x)<>obj$(get%(r)) THEN NEXT:
PEN 2:PRINT"You don't have a ";get$(r):PRINT:RETURN
2870 IF r=0 THEN PRINT"Use two words only....a verb and
a noun.The noun must refer to an object on you.":RETUR
N
2880 IF zj=1 THEN za=1:IF za=1 THEN GOTO 2910
2890 IF (r=4 OR r=5) AND ac=1 AND posi%=120 THEN PRINT"
He accepts it and in return gives you a talisman.":PRIN
T:sc=sc+20:GOSUB 4280:RETURN
2900 IF (r<>4 OR r<>5) AND za<>1 AND posi%=120 THEN PRI
NT"He doesn't want it and hands it back":PRINT:RETURN
2910 IF zc=1 THEN zb=1:PRINT"You Can't!":PRINT:IF zb=1 T
HEN RETURN
2920 IF (r=17 OR r=18) AND am=1 AND posi%=109 THEN PRIN
T"They accept it and in return give you a chara.":PRINT
:sc=sc+20:GOSUB 4320:RETURN
2930 IF (r<>17 OR r<>18) AND zb<>1 AND posi%=109 THEN P
RINT"They don't want it and hand it back":PRINT:RETURN
2940 RETURN
2950 IF posi%=10 AND be<>1 THEN PRINT"Well Done! You ha
ve solved the mystery. An exit opens to the west":PRINT
:loca%(posi%,4)=9:loca$(10)="at the end of a passage.An
exit is west":be=1:sc=sc+30:RETURN
2960 RETURN
2970 IF (posi%=40 OR posi%=41) AND zd<>1 THEN PRINT"Art
ek hears you and seeing your plight sends you back to
the top of the shaft.":PRINT:posi%=56:RETURN
2980 IF (posi%=1 OR posi%=105) AND zd<>1 THEN PRINT"Art
ek hears you and transports you across the mountain
lake to another place":PRINT:posi%=72:RETURN
2990 IF posi%=121 AND zd<>1 AND bh<>1 THEN PRINT"Artek
hears your plea for help.With a wave of his hand an e
xit opens to the east. He then disappears.":PRINT:bh=
1:loca%(posi%,3)=76:sc=sc+10:RETURN
3000 IF (posi%<>1 OR posi%<>40 OR posi%<>41 OR posi%<>1
05 OR posi%<>121) AND zd<>1 THEN PRINT"It is to no effe
ct in this place":PRINT:RETURN
3010 IF zd=1 THEN PRINT"Artek will not help you any mor
e":PRINT:RETURN
3020 loca$(121)="in a graveyard.It is a forbidding plac
e":PRINT:RETURN
3030 RETURN
3040 IF posi%=71 AND as=1 THEN PRINT"You have made it t
o the other side.":PRINT:posi%=70:RETURN

```

```

3050 IF posi%=70 AND as=1 THEN PRINT"You have made it t
o the other side.":PRINT:posi%=71:IF zu<>1 THEN sc=sc+1
0:zu=1:RETURN ELSE IF zu=1 THEN RETURN
3060 PRINT"You Can't!":PRINT:RETURN
3070 RETURN
3080 GOSUB 1420
3090 IF z$="push key" AND zh<>1 THEN PRINT"You can't!":
PRINT:RETURN ELSE IF z$="push key" AND zh=1 THEN GOTO 3
110 ELSE IF r=0 THEN PRINT"Use two words only....a verb
and a noun.The noun must refer to an object on you.":R
ETURN
3100 IF posi%=6 AND r=6 AND zh<>1 THEN PRINT"O.K! It is
in place":PRINT:zh=1:sc=sc+10:GOSUB 4380
3110 IF posi%=6 AND r=7 AND zh=1 AND zi<>1 THEN PRINT"O
.K! The key falls onto the parchment":PRINT:zi=1 ELSE I
F posi%=6 AND zh=1 AND zi<>1 AND z$="push key" THEN PRI
NT"O.K! The key falls onto the parchment":PRINT:zi=1
3120 IF posi%=6 AND zi=1 AND bj<>1 THEN PRINT"Great Stu
ff! You can get it now.":PRINT:bj=1:obj%(19)=6:obj%(3)=
6:sc=sc+20:RETURN ELSE IF bj<>1 THEN RETURN
3130 PRINT"You Can't!":PRINT:RETURN
3140 RETURN
3150 PRINT"You Can't!":PRINT:RETURN
3160 RETURN
3170 IF RIGHT$(z$,4)=" all" THEN FOR i=1 TO 6:FOR z=1 T
O 19:IF inv$(i)="" THEN 3180: ELSE IF inv$(i)=obj$(z) T
HEN GOSUB 4490:all=1:PEN 1:PRINT inv$(i);" - ";PEN 2:G
OSUB 3200
3180 IF RIGHT$(z$,4)=" all" THEN NEXT:NEXT:PRINT:RETURN
3190 GOSUB 1420
3200 IF r=0 THEN GOTO 3320 ELSE IF obj%(get%(r))<>posi%
THEN FOR x=1 TO 6:IF inv$(x)<>obj$(get%(r)) THEN NEXT:
PRINT"You don't have a ";get$(r):PRINT:RETURN
3210 IF r=8 THEN PRINT"It has a gilded handle and is ve
ry sharp":PRINT:RETURN
3220 IF (r=1 OR r=2 OR r=14 OR r=15 OR r=21 OR r=22) TH
EN PRINT"It possesses great power over evil":PRINT:RETU
RN
3230 IF (r=3 OR r=4 OR r=5) THEN PRINT"The bag contains
many gold coins.":PRINT:RETURN
3240 IF r=6 THEN PRINT"It is quite plain.":PRINT:RETURN
3250 IF r=7 THEN PRINT"It is a goose's quill for writin
g with.":PRINT:RETURN
3260 IF r=16 THEN PRINT"It is quite old but looks stron
g enough to support you":PRINT:RETURN
3270 IF (r=17 OR r=18) THEN PRINT"It is a blue rose wit
h healing powers":PRINT:RETURN
3280 IF r=25 THEN PRINT"It has the power to protect one
from all":PRINT:RETURN

```

*Three parts already, and there's more to come! A little suspense never hurt anyone. It makes next month's issue all the more exciting, when you may begin your adventure with the final of the series, The Rings Of Artek - 4.*





# ARE YOU BOARD?

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# 3-D Fundamentals



With the Wireframe program you can turn your graphic inspirations into amazing three-dimensional realities.

Have you ever wanted to be able to create 3D images on your Amstrad? Well, with AJ's Wireframe Program, you can rotate all sorts of wonderful vector graphics on your monitor.

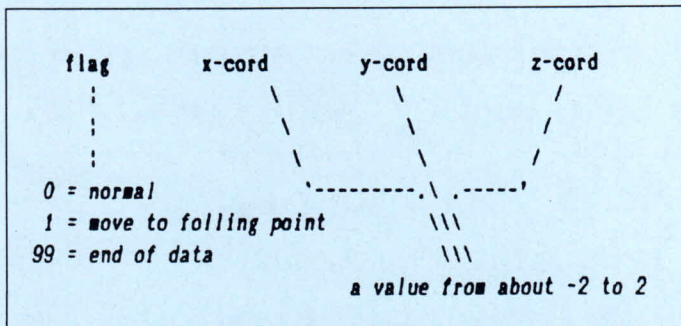
I hope you know what matrices are, 'cause they make the maths easier. Sort of. Well, to start with, in three dimensions you need three coordinates to describe the position of any point in space - the X, Y and Z co-cords.

Plotting the X and Y co-ords is no problem: the PLOT and DRAW commands all expect X and Y as standard. To create the illusion of a third dimension, though, we must fake a third axis coming out of the plane of the screen, perpendicular to both X and Y axes. Got that? No, neither do I. Listen.....

Make an L-shape with your first and second fingers. Point the first finger directly upwards - this is the Y axis. Your second finger should be horizontal - this is the X axis. Now stick your thumb out, towards your bemused face. This is the third, or Z, axis.

To fake the Z axis when plotting points we must adjust the X and Y co-ords by a small amount, depending on the Z value. This is done in the program, take my word for it.

The data in the program for the shape to be drawn is as follows:



Example shapes are listed in the program. Get out a piece of graph paper (three dimensional if you

have it) to draw them out and get a feel for the co-ords.

Now we have drawn the shape, the next stage is to perform some sums and rotate it. When you think about it, you can only rotate the object in three distinct directions - any way you turn an object can be expressed as a turn of so many degrees around the X axis, so many around the Y and so many around the Z.

Here comes some maths, so if you don't like numbers talk amongst yourself for a bit.

Let's represent the X, Y and Z coordinates by a column matrix A, i.e. Fig.1.

$$A = \begin{pmatrix} (x) \\ (y) \\ (z) \end{pmatrix}$$

Fig. 1

Now to rotate any point by say, 0 degrees, you use one of the following standard matrices in Fig.2.

To find the new values of X, Y and Z just multiply the relevant rotation matrix with the column matrix of coordinates. Exciting stuff, eh? OK, maths lecture over.

When the program is run and some graphics data specified (For Example, change the ' lines at the end of the program), the object will be displayed. Pressing function keys f7, f4 and f1 will rotate the object around the Z, X and Y axis.

It is important to note that the machine code routines will only work on 6128s due to a sneaky firmware call. This uses two graphics screens to totally remove flicker from the display. Sorry, 464 users, just blink a bit. <<Wot about the 664! - Ed>>

There is a bug in the program as it stands - if you repeatedly rotate an object it shrinks.... anyone like to hazard a guess why?

All that remains to do is write a hidden line

X rotation		
(1	0	0)
(0	cos θ	sin θ)
(0	-sin θ	cos θ)
Y rotation		
(cos θ	0	-sin θ)
(0	1	0)
(sin θ	0	cos θ)
Z rotation		
(cos θ	sin θ	0)
(-sin θ	cos θ	0)
(0	0	1)

Fig. 2



removal program and then try some ray tracing and texture mapping.

Something that is slightly easier to do is to change the program to run in MODE 0, and use the logical colours to animate some rotating shapes. Endless fun.

Well that's about it, so go to it. ■

## WIREFRAME PROGRAM

```

10 '3-D Wire frame model
20 'The Amstrad User - Oct 90
30 '
40 '
50 MEMORY &2FFF:GOSUB 520 'machine code - 6128 only!
60 '
70 MODE 2:ORIGIN 320,200
90 '
100 DIM object(99,3):num=0
110 RESTORE 700
120 READ moveflag,x,y,z
130 object(num,0)=moveflag:object(num,1)=x:object(num,2)
)=y:object(num,3)=z
140 IF moveflag=99 THEN 170
150 num=num+1:GOTO 120
160 '
170 v=0
180 size=50
190 a=15
200 DEG
210 s=SIN(10):c=COS(10)
220 '
230 ' draw vector object
240 '
250 CLS
260 FOR point=0 TO num
265 m=1.5^object(point,3)
270 xx=size*(object(point,1)*m):yy=size*(object(point,2)
)*m)
280 IF object(point,0)=0 THEN DRAW xx,yy ELSE MOVE xx,y
y
290 NEXT point
300 flag=0
310 IF NOT INKEY(10) THEN GOSUB 390:flag=1
320 IF NOT INKEY(20) THEN GOSUB 440:flag=1
330 IF NOT INKEY(13) THEN GOSUB 470:flag=1
340 IF flag=0 THEN 310
350 IF v=0 THEN GOSUB 610 ELSE GOSUB 650 '6128 only
360 GOTO 250
370 RETURN
380 '
390 ' rotate around z axis
400 '
410 FOR point=0 TO num:object(point,1)=c*object(point,1)
)+s*object(point,2):object(point,2)=-s*object(point,1)+
c*object(point,2):NEXT

```

```

420 RETURN
430 '
440 ' rotate around x axis
445 '
450 FOR point=0 TO num:object(point,2)=c*object(point,2)
)+s*object(point,3):object(point,3)=-s*object(point,2)+
c*object(point,3):NEXT
460 RETURN
465 '
470 ' rotate around y axis
480 '
490 FOR point=0 TO num:object(point,3)=c*object(point,3)
)+s*object(point,1):object(point,1)=-s*object(point,3)+
c*object(point,1):NEXT
500 RETURN
510 '
520 ' machine code screen swaps, for 6128 only.
530 '
540 RESTORE 520
550 FOR t=&3000 TO &3023:READ s:POKE t,s:NEXT
560 DATA &3e,&c0,&21,0,0,&cd,&1f,&bd,0
570 DATA &3e,&40,&21,0,0,&cd,&55,&bd,&c9
580 DATA &3e,&40,&21,0,0,&cd,&1f,&bd,0
590 DATA &3e,&c0,&21,0,0,&cd,&55,&bd,&c9
600 RETURN
605 '
610 ' look at screen &c0, draw to screen&40
615 '
620 v=1
630 CALL &3000
640 RETURN
645 '
650 ' look at screen &40, draw to screen &c0
655 '
660 v=0
670 CALL &3012
680 RETURN
690 '
700 ' DATA for object
710 '
720 'triangle data 1,0,0,0,0,2,0,0,0,1,1,0,0,0,0
730 'data 1,-1,-1,0,0,1,-1,0,0,1,1,0,0,-1,1,0,0,-1,-1,0
731 'data 1,-1,-1,1,0,1,-1,1,0,1,1,1,0,-1,1,1,0,-1,-1,1
733 'data 99,0,0,0
740 'l-shape data 1,0,0,0,0,2,0,0,0,2,1,0,0,1,1,0,0,1,3
,0,0,0,3,0,0,0,0,0
750 DATA 1,-1,0,1,0,1,0,1,0,0,1,0,0,-1,0,1
760 DATA 1,1,0,1,0,0,0,-1,0,0,1,0,0,1,0,1
770 DATA 1,-1,0,1,0,0,1,0,0,0,0,-1,0,-1,0,1,99,0,0,0
780 DATA 1,-1,-1,1,0,1,-1,1,0,1,1,1,0,-1,1,1,0,-1,-1,1
790 DATA 1,-1,-1,-1,0,1,-1,-1,0,1,1,-1,0,-1,1,-1,0,-1,-1,-1
800 DATA 1,0,1,1,0,0,-1,1,0,0,-1,-1,0,0,1,-1,0,0,1,1
810 DATA 99,0,0,0

```



# Across The Board



*Joseph Elkhorne & Sandy Tadman broaden your horizons  
with an introduction to the world of Bulletin Boards.*

**T**his month, we're going to look at the wonderful world of bulletin boards. Those of you who have never practised the arcane art of BBSing don't know what you're missing!

"So what is it?" you ask. BBSing is connectivity - it's access, communication, information and fun. BBSing is the power to sit in the comfort of your own home and communicate with the world, at almost no cost. The technique is simple: you call up a bulletin board, which is nothing more than a dedicated microcomputer system, generally speaking.

The hardware you use can be as little as a dumb ASCII terminal and a 300 baud modem - or the top of the line 386 system and a superfast Trailblazer. Software varies to some degree. A terminal will have communications capability in ROM. I started on the 6128 last year, when I added the optional serial interface and a grotty, used old 300 baud manual dial modem.

I'm sure you all know that modem stands for 'modulator-demodulator' and is a serial communication device that links your gear to the distant microcomputer via telephone line. The 6128 interface had a terminal program in ROM, although it is possible to find other programs for it that run under CP/M.

If you're using an IBM compatible, various software means exist for you. Some programs are Public

Domain (i.e. free!), others are shareware (register and pay a fee if you like it) and yet others are commercial, expensive, and have many bells and whistles - sometimes more than you need.

Actually, the hardware and the software are not critical. It doesn't matter a great deal which computer (or terminal) you might use, or which comms program tickles your fancy. Essentially, you are exchanging streams of ASCII characters between two points.

I don't want to get bogged down in the esoterica and technology of telecommunications. All of that is secondary to the real purpose - interchanging ideas and opinions with other users. A typical bulletin board will have a message area, probably a files area, (though some are limited), possibly a chat mode to other users in real-time, and perhaps on-line games will be a feature as well.

The majority of bulletin boards are operated by private individuals. Increasingly, though, suppliers of equipment and software are providing customer support and sales information with similar systems.

A bulletin board is usually not the terminus of your connection, as such. You might think of it as analogous to a telephone exchange. Almost all boards belong to a network of sorts, and swap electronic mail on a regular basis. The message you write today will be read by any number of other

users immediately; it will likely travel up the network overnight, possibly reaching the U.S. a few days later. Depending on the network, you could well find yourself having a keyboard conversation with someone in Europe in a very short time.

In the past fortnight, I've had replies from several places in the United States and two from Vienna, Austria - all for the price of a 21 cent 'phone call. More on this later.

Right, then - messages. What kind are there? A given board will usually support one or more local only message areas and have access to at least some portions of one or multiple network areas.

I doubt there's any computer users around who could not find something to interest them. For example, let's look at the message areas from Decadence BBS. This board has officially been on-line 24 hours day, for over six months; it was operational before that for limited hours per day.

We find five message areas, sorted by topic. They are: General Discussion, Social Chatter, Special Interest Discussion, Deep Thought, and Computer Related. Some of the sub-area titles include: Local Chatter, Bits and Pieces, Music Notes, Gnomie's Home, Devil's Domain, Role Playing Games, Dead Rat Society, Bookworm's Nook, TV Talk, Poetry and Short Stories, Science Fiction Forum, Petrol Heads, Philosophy,



Serious Science, Mass Debate, Future World, Programming Talk and five separate specific computer areas.

That list is not comprehensive, and it mixes both local and network areas, but you get the idea. Also, it's not uncommon for some areas to be dropped when they lag in usage - and new ones to be added, depending on the wants and needs of the users.

Other boards might have more areas, some indeed have far less. Not only that, boards come and go, almost on the wind. It takes a great deal of determination and not an insignificant investment - both in time and money for the owner to provide such a service.

I should point out that not all bulletin boards are public, though almost all have at least some general access for 'non-member' users. It's the decision of the owner - known in the sub-culture as a 'sysop' about the nature and philosophy of the bulletin board.

Some system operators begin casually as users and find they've developed an addiction that only a board of their own will cure. When enlightenment sets in, telephone bills, limited or no access to their own equipment, and unwarranted hassles from users, some fold their tents and steal softly away, very probably to harass other sysops.

A few boards insist on a nominal fee for membership. This could be as little as ten or twenty dollars for the year, and gives you greater access to features on the BBS, or increased on-line time. Other sysops begin with altruistic motives, and eventually find themselves appealing for 'donations' from users. When you consider the advantages to you, the users, it's a small price to pay to support your hobby and the system generally.

For instance, about the cheapest going of the Public Domain software libraries, charges \$5 a disc. Others can be as much as \$18 a pop, mail order, for the same software. Yet many of the programs these libraries offer are

available in the files area of your friendly BBS. If you have download access, one telephone call might get you an archiving utility, a good PD word processor, an assembler or any of a host of goodies.

Remember TANSTAAFL, though. (For non-Heinlein-fanatics, the acronym for: There Ain't No Such Thing As A Free Lunch). If you only try downloading, without at least some returning the courtesy by uploading other files, you get the dubious reputation of a 'file leech' and probably lose access to the privileges.

Even if you're a 'newie' and cannot upload anything of value, you can take part in the board's activity. Most sysops are more than happy to let a user grab files if she/he uses the message areas. BBSing works best when people are involved - as active participants, rather than spectators.

Sometimes, it's not for the faint hearted. Recent conversations (convos) on one board examine the Iraqi crisis and range from "nuke the bums" to "appeasement - remember the environment" and the spectrum between. 'Flames' and 'zorches' are messages of, err, strong rebuttal content, shall we say? This electronic version of a town forum can lead to some heated debates, as intense as if they took place in real-time.

And, speaking of real time, your convos generally take between a day and a week, or more, from message to reply. Replies (sometimes interjections by third parties) can range from cryptic one-liners like ROFL or ROFL,STC to a paragraph with [sarc mode engaged] appended or a curious string of characters known as a smiley. The sub-culture does have its own jargon and shorthand which takes getting used to - that's part of the fun of BBSing, something new every day.

One quickly gets used to the time lag in BBS convos. There are two real-time exceptions however. As most boards only have the single telephone line, a new user does not anticipate impromptu

responses 'from the machine'. It does come as quite a shock, therefore, the first time the sysop breaks in with a comment. This is familiarly known as a "chat attack" but can be a quite pleasant interlude.

It's possible to page a sysop for keyboard-to-keyboard conversation, but the user should use discretion. If it happens to be 3:42 a.m., one may get more (or less) than she/he bargained for!

The other exception to normal BBS message flow is the 'chat board', which is only a bulletin board with multiple telephone lines. Several users can log-on simultaneously and have round-table discussions, arguments, abuse sessions, or whatever takes their fancy. One would liken a chat board to CB via keyboard, I suppose.

If you're too timid to enter into convos on message boards in the beginning, at least pick one area and read as much as you can. You'll get an idea what's going on, gain some insight into the personalities of the regular users, and may even find someone you know. Drop them a line.

I don't normally recommend on-line games for beginners. For one thing, you probably don't have enough time to really get involved with them. Also, some are complex and you need background information, like .DOC files.

A typical sample of what's available these days might include: TradeWars, Yankee Traders - both space strategy games; Leech, a hacker's simulation; Poker, Othello; Scrabble; Global Warfare - like Risk; and Chess. You may also find on-going Role Playing or Trivial Pursuit types.

Enjoyable though on-line games might be, messaging is the lifeblood of a good BBS. Without the dynamic of people exchanging ideas, a board gets boring, and may even die. Be prepared to contribute to ongoing conversations or start new ones. Write - be in it!

Getting started in BBSing is a little like learning to swim. Sometimes you simply have to jump in



and try. You can start from a point of complete ignorance, as I did, and do a bit of re-inventing the wheel. It's easier to have someone who's already into it show you the ropes. If you do decide to go it alone, you'll find most boards are 'user friendly'.

Just as different users have different machines and communications software, so various bulletin boards take their own approach. The BBS software gives its own 'look and feel' to a system. Some users will complain to the heavens about any change, and pick up every little fault or short-coming.

Generally though, most programs take you by the hand to guide you around. You'll frequently find on-line help of various kinds, and menus or bulletins which explain the BBS and operation.

Your first call will follow a procedure something like this: dial the number, hope it's not engaged; if it rings, wait for a carrier light on the modem or some indication from the monitor that a connection is established. You may hear a warble from the modem as it links up.

Assuming your hardware and software configuration is correct, you'll probably see a message on screen asking you to hit ESCape to continue, or some such. A few seconds later, the BBS comms program is up and running; it's told you who it is, possibly amused you with a quote of the day, and now asks your name. Your entry is checked against a user list. If you're not included, you go through a registration process, which asks for your real name (some boards permit aliases to be used), telephone number, and other minor details.

This information is for the sysop's private use, to verify the caller's identity. You might then go through a short questionnaire about your equipment, interests, how you discovered the board and so forth.

Somewhere along the line, you get told current information about

the board itself, what privileges you are entitled to, potential fees or donations (if any). A beginner doesn't have much time, and may even have very limited access to the areas - especially at the start. But you usually get a fair look around the place; it's nice to leave a message to the sysop on log-off, with thanks for the browse.

Unless you run across a board that is really obscure or cranky, you'll normally find menu-driven operation. Take things slowly, a step at a time, don't panic and when all else fails, read the instructions.

---

***"...messaging is the lifeblood of a good BBS. Without the dynamic of people exchanging ideas, a board gets pretty boring, and may even die."***

---

Now, we'll get a sysop's point-of-view. Take it away Sandy!

#### **A SYSOP'S POV:**

Being a sysop can be fun...it can also be depressing, worrying, expensive and more of a hassle than it is worth.

Basically, you are taking your computer, phonenumber and modem, and tying them up in one corner of the room, where you can see them, but not use them as often or as freely as you might like. Now, for your generosity in doing so, you are quite likely to find yourself being used and abused.

The time aspect is something which takes most new sysops by surprise. It takes time and dedication to build up and maintain a BBS. The normal amount of time I spend on Decadence BBS is 3-4 hours per day, and about 6 hours each Sunday; on maintenance,

reading mail, checking file uploads, maintaining the user-base, verification of new users and so on.

#### **A TYPICAL NETWORK:**

A typical network consists of two or three or more boards, often in a reasonably local area, who swap mail in specific areas on a regular (usually daily) basis.

Typically, the mail is collected from the board each morning and processed into bundles, which are compressed using one of the common archivers (ie lharc, pkpak, pkzip, arc).

During the "mail event", the "remote" board calls the host, and sends a handshaking package which ensures that the two computers are synchronised and recognise one another. (I am told, although the source may be questionable, that the "handshake" consists of one end sending the word "yoo-hoo" and the other replying "yoo-hoo to you too"). Often, this is accompanied by a password, to ensure that mail ends up at its correct destination. The remote system sends its mail, then receives a new bundle of mail in exchange, which contains the mail from the host, and other systems in the network. The session is then completed, and the connection terminated.

This process is repeated at pre-determined times called "events" for each network of which the board is a member. Usually they are performed in the early hours of the morning, in order to minimise inconvenience to both sysops and users, and the front end mail processor performs all the actions automatically without requiring supervision by the sysop.

At a pre-determined time, often (but not necessarily) straight after the mail 'poll', the board shuts down and processes the mail, unpacking it and tossing it into the appropriate areas on the BBS. The sysop usually runs a program which links the new messages to any others in the same area that have the same SUBJECT line.

It is also often at this time that



old mail is killed, to keep the message base down to a workable size, and other routine tasks such as rotating of system logs and updating of system records are performed. Backups may be made of the files which are in constant use, such as the message base and user records, to minimise the drastic effects of system crashes.

A point is generally operated by a person who calls a board on a very regular basis and receives a lot of mail. The sysop may agree to set them up as a point in order to free the time that they would normally spend on line.

The point works as a sub-board in a network. Mail is packed from specific areas, usually at the same time as other packing is done, and bundled... the point calls in either at a pre-recognised time, or whenever it is convenient. In every way, this works the same as the normal netmail mode.

The difference is that the point seldom actually runs a board of any type; the mail is collected into folders by the front-end mail processor. It can be read as normal by the user. If he chooses to reply to any of the mail, the replies are stored in the same folders, then scanned and bundled and sent in the usual way at the next point mail event.

The main limitations of being a point are: you have only access to mail, you cannot play an online game or chat to the sysop without making a separate log-on. The main reason that a sysop will limit the number of points is that the mail takes up so much disc space if it is not collected daily, and it takes extra time to scan, pack and toss the mail each day.

#### OFFLINE EDITORS/READERS

Recently, a new innovation has allowed more users the convenience of a point, without the hassles to the sysop....systems such as RAX / XRS and Silver Xpress being the most common for IBMs working with QBBS and RA boards. Other systems are available for some other computers and other BBS systems.

Typically, an off-line editor will allow you to down-load mail from selected areas on the board while you are online. It scans the message base and collects everything in those areas basing its selection on your last-read pointer (which holds the number of the highest message you have read). This mail is bundled and archived, and sent directly to you by your choice of transmission method (typically x, y or z modem protocols) and then you are still connected to the board to play games or chat or receive private mail.

When disconnected from the

---

***'The BBS comms program is up and running; it has told you who it is, possibly amused you with a quote of the day, and now asks your name.'***

---

system, you can use the reader/editor to sort the messages you download and reply to the mail there... at your leisure and without the pressure of the "time left" counter ticking away in the right hand corner of your screen.

#### ADDRESSING / NODES

Each board in a network is referred to as a node, and each has a unique address which identifies it throughout that network. Networks which are world-wide such as Fido net, have a system of zones, networks and regions - 1 refers to North America, 2 to Europe, 3 to Australia and the "Pacific Basin", 4 is Latin America.

Local Networks or National Networks generally have their own addressing system, but this will still tend to follow the zone: net/node. point type format. (3:303/342 for example.) *Sandy.*

Thank the nice lady, you lot. I'll bet you learned more about BBSing than you even wanted to!

Before we close, I'm sure someone is wondering about the danger of virus contamination. In actual fact, there's little risk compared to exposure through other means. By way of example: I know a school principal who will not consider BBSing because of the potential virus problem. His machine, nonetheless, became infected twice in a single week - once by a games program his child brought home from school; the other via a copy of a commercial program lent by a peer for him to evaluate.

Good sysops like Sandy are aware of the dangers. She regularly runs the latest virus scanner and also inspects all user uploads.

Since a virus is a program, actually, it has to be run before any damage is done. Any user who downloads programs from a board should do their own checks before trying them - if they are really fearful of the potential damage. Simple connectivity is not a problem.

There's a lot more to say about BBSing but this column is already longer than even I anticipated. You can look forward to more information in the near future. ■

---

#### BULLETIN BOARD INFORMATION

*Decadence BBS*  
(03) 794-7949

*The Little Shop of Horrors*  
(03) 583-4778

*The Blackboard*  
(03) 776-5206

*The Cafe*  
(03) 894-2815 (five lines)

*TimeScope*  
(03) 561-5217

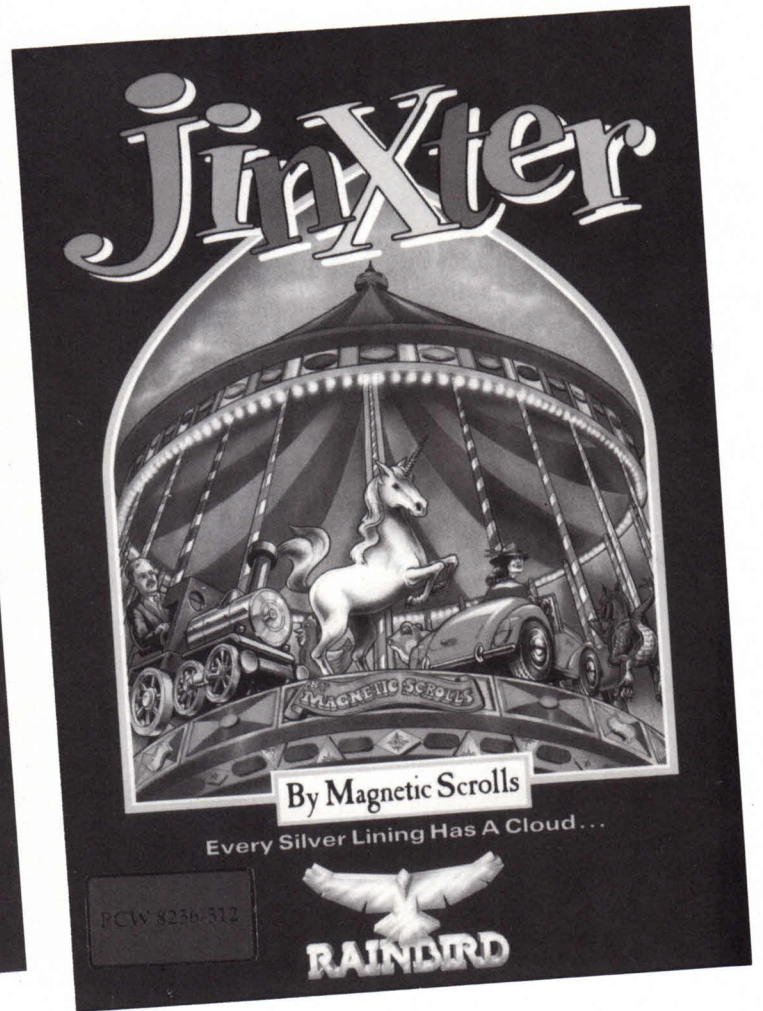
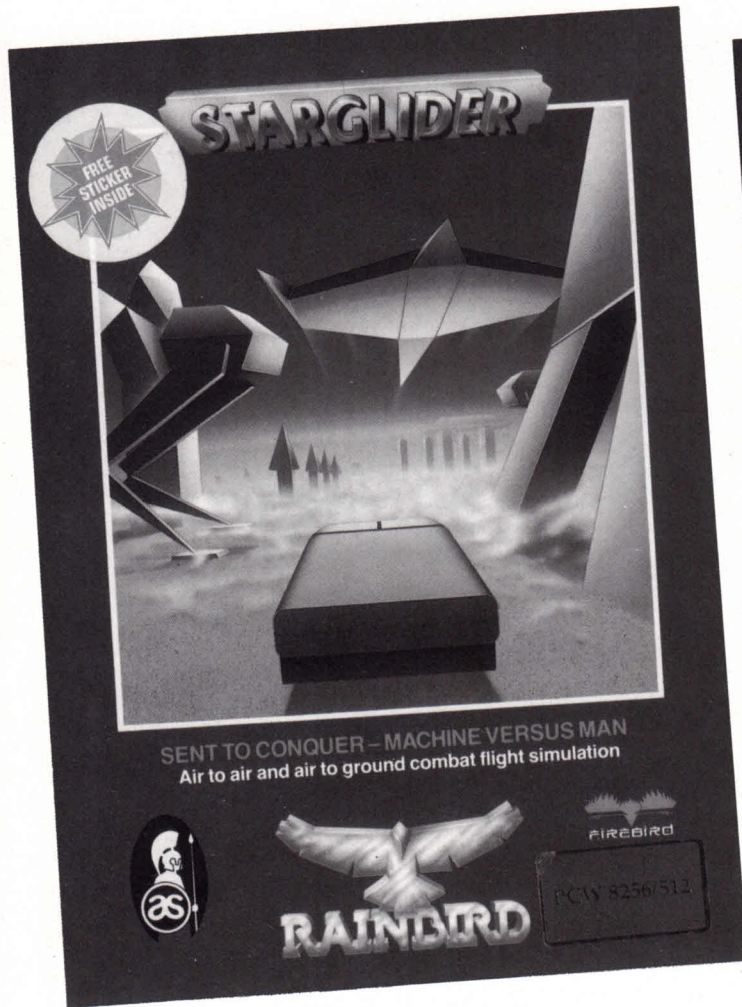
*The Great MacHouse*  
(03) 561-6942

*In Western Australia, Multi-line 90*  
(09) 370-3333

*in Queensland, AMPAK Northgate*  
(07) 263-7070



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# LocoScript's Groups



*Make your documents more accessible with CP/M and LocoScript using the simple fundamentals of organization.*

**W**hen creating documents, it's useful to keep similar documents together. One way of doing this is to reserve whole discs for each type of document, but this may be an expensive solution. Another way of organising documents is to use LocoScript's groups to put them into different categories on each disc.

In this article, we'll look at how groups can help you organise your documents and in particular, we'll see how LocoScript's search for templates supports the different ways in which you can use groups.

We also look at the ways in which CP/M can manipulate groups of documents. In particular, two of CP/M's facilities may be of interest to LocoScript users: copying and erasing groups. However, although they both organise their discs in the same way, there are some subtle differences in the way LocoScript and CP/M look at groups, and as a result mixing LocoScript and CP/M files on the same disc is something we advise strongly against. You'll see why later on in the article.

## ORGANISING YOUR DOCUMENTS.

Whether you choose to store different kinds of documents on one disc or you use separate discs for each type of document, there are advantages to dividing them into smaller groups. For a start,

splitting a large number of documents into groups will help you find individual documents much more easily than if you kept them all in the one large group. This is especially true if you are using 720k discs which can hold up to 256 documents, depending on their size. But just as importantly you can then take full advantage of LocoScript's convenient system of templates.

## TEMPLATES AND GROUPS

A template is a pre-prepared document which LocoScript uses as its basis for new documents. Documents such as letters share a lot of the same structural details; for example the size of the paper, the margins, and perhaps the letterhead. Therefore creating a template that LocoScript can default to with these details means that you do not have to go through the process of setting up every document in the same way - it's done for you when LocoScript copies the set information from the template into the new document.

When you create a document, LocoScript looks for a template in not only the group you're working in, but also in a number of different places on your discs. The method that LocoScript uses to search for an appropriate template to use is closely related to the ways that we suggest you organise your discs. In other words, your method of organization will have

an influence on the system's general efficiency.

LocoScript looks first for a template in the group you're working in. So if you use the groups on your disc to store different types of document and keep a suitable template in each group, LocoScript will automatically find the right template for the document you're creating.

If there isn't a template already in the group you're working in, LocoScript doesn't just give up. Instead it will search through the same group in Drive M. Templates are copied from your Start-of-day disc into the corresponding groups in Drive M when you load LocoScript. So if you want to store the same type of documents in this group on all your discs, simply keep the template for this group on your Start-of-day disc. There's no need to keep this template on any of your data discs.

If LocoScript doesn't find a template in the same group on Drive M, it goes back to the disc you're working on and looks in group 0. So if you want to use a disc for just one type of document then you just need the template for this document in group 0 of the disc and - provided there aren't any templates in Drive M - LocoScript will always find the group 0 template wherever you create a new document on that particular disc.

Finally, LocoScript looks in



Disc management.				Printer idle. Using none.					
C=Create new document E=Edit document P=Print document D=Direct printing F=Fill M=Merge				f1=Actions f2=Disc f3=File f4=Group f5=Document f6=Settings f7=Disc change f8=Options					
Drive A:	SALES	1	Drive B:	not fitted	Drive M:	LOCOMAIL.DAY			
24k used	149k free	7 files	0k used	0k free	4k used	42k free	3 files		
group 0	0k	group 4	0k	STARTUP	4k	group 4	0k		
MEMOS	10k	group 5	0k	group 1	0k	group 5	0k		
CREDIT	13k	group 6	0k	group 2	0k	group 6	0k		
ODDS	1k	group 7	0k	group 3	0k	group 7	0k		
A:LETTERS	3 files	A:CREDIT	3 files	A:ODDS	1 files	M:STARTUP	3 files		
2 limbo files	1 limbo files	0 limbo files	0 limbo files	MEMOS	.1	5k	JONES	.1	
JONES	.1	5k	JONES	.2	5k	TEMPLATE.STD	3k	TEMPLATE.STD	3k
SMITH	.1	2k	FAXTRANS.	1k	TEMPLATE.STD	2k	2 hidden	2k	
TEMPLATE.STD	3k								

Disc Manager Screen.

group 0 on Drive M in case you have decided to use just the one template for all of your documents.

What this comes down to is that to make the most effective use of templates, you need to organise your documents into groups!

### WHAT ARE GROUPS?

LocoScript divides disc space into eight groups, as you can see by looking at the Disc Manager Screen.

The eight groups are initially called group 0, group 1.. up to group 7, but you are not restricted to these numerical titles. Instead you can give each group a relevant descriptive name, such as the obvious ones like LETTERS or MEMOS, which reminds you the sort of documents you keep in this group. These names can be up to eight characters long and you can set them up by using the Rename group option in the f4 Group menu. (You will find the full details are given in Session 7 of your User Guide).

The section of the screen immediately below the three information lines shows the way in which the separate disc drives have been divided into groups, and also tells you exactly how much space the documents in each group are using.

You can also give your discs appropriate names - by using the

Rename option on the f2 Disc menu. You'll find this useful if you wish to use more than one Start-of-day disc. When you load LocoScript, the group names and disc names on your Start-of-day disc are copied into Drive M. By giving each of your discs a suitable name, you only have to look at Drive M to remind yourself which disc you last used to load LocoScript.

### USING LOCOSCRIPT'S GROUPS IN CP/M

CP/M is the general purpose operating system supplied with your machine which, among other things, allows you to manage files and run programs. As CP/M and LocoScript both organise their discs in the same way, you can work on your LocoScript discs whilst under CP/M. As we'll see, CP/M has some useful facilities for handling the contents of groups. In particular, you can use CP/M to both copy or erase whole groups at a time with one simple command.

### COPYING GROUPS IN CP/M

The utility that you use to copy the contents of one group to another is PIP.COM. Once you've loaded CP/M, just copy PIP.COM onto Drive M so that you are still able to use it after you've removed the CP/M disc. The command that does this is:

```
PIP M:=PIP.COM (RETURN)
```

will need to type in is a simple command like:

```
M:PIP A:[g7]=A:*. *[g3]
(RETURN)
```

Here, all the files in group 3 in Drive A will now be copied from there to group 7 in Drive A. CP/M will naturally list the names of all of the files as they are being copied.

To copy the contents from one group on one disc to a group on a different disc or in a different drive, you would need to use something similar to the following command:

```
destination disc source disc
| /
M:PIP B:[g2]=A:*. *[g1]
| |
destination group | |
| all files |
| source group
```

This copies all of the files that are in group 1 in Drive A to group 2 in Drive B.

### ERASING GROUPS

CP/M allocates files to groups by giving individual files a 'User number'. User numbers correspond exactly to the group numbers, so, for example, User number 0 will put a file into group 0. To erase the contents of a group you must first set the user number of the group you wish to

Once this is done you need only insert the disc containing the particular groups that you want to copy. You will need to make sure that your disc does not hold too many Limbo files, because if it does they will be taking up valuable space and there may not be enough room for the copied files to be included. In order to copy the contents of any one group to another group on the same disc, all that you



delete. Then to delete the contents of, say group 2, you type:

```
USER 2      (RETURN)
```

The prompt will then change to 2A>. Type;

```
ERA  *.*    (RETURN)
```

and as a precaution CP/M will ask you to verify that you want to delete everything in the groups, making accidental deletion less likely to occur:

```
ERASE *.* (Y/N)?(RETURN)
```

Then type 'Y' to delete the group. But you must remember that there won't be any Limbo files to recover if you've made a mistake! (You can find out more about these facilities in the CP/M section of the PCW User Guide for your machine).

## DIFFERENCES BETWEEN LOCOSCRIPT AND CP/M

Although you can use LocoScript discs in CP/M we advise you not to mix LocoScript documents with CP/M files on the same disc. This is because LocoScript and CP/M look at groups in a slightly different way.

CP/M in fact has 16 User numbers - 0 to 15 - and LocoScript's groups 0 to 7 correspond to CP/Ms Users 0 to 7. But what about Users 8 to 15? So far in this article we've talked about the eight usable groups in LocoScript. There are, in fact, a further eight groups which LocoScript uses to temporarily store files that you have erased.

When you erase a file LocoScript doesn't remove it entirely from the discs, as you might expect. Instead the document becomes a 'Limbo file'. You can see the Limbo files on your disc by selecting the option to 'Show Limbo files' in the f8 Options menu on the Disc Manager Screen.

Limbo files act as a safety net for you. If you accidentally delete a file it's not as disastrous as it

might seem because you can actually recover the file from its limbo state if you need to. However, as the name implies, Limbo files do not remain on the disc permanently - LocoScript will automatically erase them when more space is needed for your documents.

You can't see the groups containing the Limbo files and they are not accounted for by LocoScript as space used on your disc. But these are the groups which correspond to CP/M's Users 8 to 15.

This all seems quite straightforward until you realise that CP/M cannot distinguish completely between Limbo and non-Limbo files. As far as CP/M is concerned all of the files on the disc are equally important. The result is that a disc which may seem to be half empty to LocoScript can on the other hand appear to be completely full to CP/M.

Conversely, if you save CP/M files in any of the Users 8 to 15 and then use the disc in LocoScript, it will be easy to forget that you have these files on the disc as you can't automatically see them. If you are not aware of their being there, you might lose them completely when LocoScript erases what it thinks are Limbo files in order to free some space to make it available for your LocoScript documents!

So we advise you to keep some discs for use with CP/M and others for use with LocoScript, only using the CP/M discs with LocoScript when you have no other choice, and even then with extreme care.

## HINTS AND TIPS

*Working with 720K discs;* In our office, we find it convenient to store the letters we write on 720k discs. By spreading these documents across the different groups, we've found that you can save much time cursoring around if you start creating documents in group 7.

Starting from group 0 means that before long it's necessary to

scroll the Disc Manager Screen to the right before reaching the group which you're currently working in. If you begin in group 7 and work backwards, the current group will always be displayed on the screen without the need for any cursor movements.

*Groups and disc space;* Groups do not take up a fixed amount of space on your disc, so you can still use all of the space on the disc for your documents; however you divide the documents into groups.

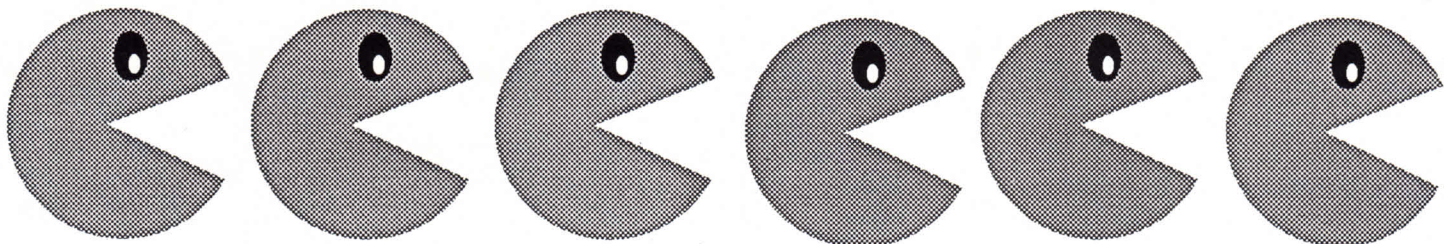
*Erasing group names;* We're often asked how we can restore the original group name, such as 'group 1'; (ie, how you erase the existing group name). Group names are really no more than empty files with the filetype '.GRP'. If you look at the contents of your LocoScript disc when using CP/M you'll see the group name listed as a file.

To erase the group name, move your group cursors (using the SHIFT and the cursor keys) over the group name you want to change. Then press f3, move the menu cursor down to the option 'Erase file', and press ENTER. Type the name of the group in the slot provided for the filename and add a filetype of '.GRP'. For example, for a group called 'ODD\_JOBS', you would type 'ODD\_JOBS.GRP'. Then after pressing ENTER on the Disc Manager Screen you'll see the name revert to, for example, 'group 1'. Because each group name is a file, 'ODD\_JOBS.GRP' will now appear as a Limbo file. Before you can rename this group 'ODD-JOBS' again, you will need to erase this Limbo file.

The principles behind the grouping processes are quite simple, but as in many cases it is the obvious that can make all the difference in creating molehills out of mountains. Both CP/M and LocoScript compliment each other with their different but equally useful features. ■



# ENTERTAIN



## INTERNATIONAL 3D TENNIS

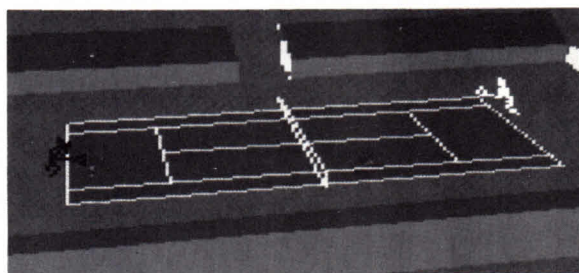
To get the armchair sportsperson into the act

PALACE SOFTWARE have earned a bit of a reputation lately as a producer of good quality software. Two of their most famous (or infamous) products have been *Barbarian* and *Barbarian II*. Both games featured great graphics, good playability and buckets of blood (in the true Conan the Barbarian style). Well, for their latest offering they have put away their swords and their shields to take up another type of weapon - a tennis racquet!

International 3D Tennis (ITDT) is a tennis game with a difference. At a time when 8-bit programmers are producing games with good sprites and solid 3D graphics, Palace have almost taken a backward step. The graphics in ITDT are basic. The detailed spectators included in most tennis games are missing, and are replaced by solid blocks in the shape of the stands. The court is well marked, and the net appears as a hollow rectangle. The sprites, at first, are a bit of a let down, as all they are are wire frame triangles. The heads are triangles, the bodies are triangles and the racket heads are also triangles (?). Where ITDT picks up however, is that the animation and depth of game play is great.

Upon entering the game, you have a number of options to choose from. You can select to play a game against the computer, a friend, to play in a tournament, or to play a season of international tennis. Once you've chosen which option you want, you can choose the number of sets to play and the type of court surface (one or two player game only). There are four skill levels to choose from, ranging from amateur to ace. If you

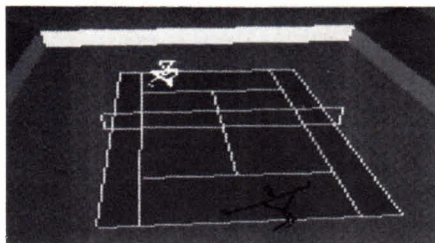
choose to enter a tournament, you get to choose from 72 tournaments around the world, including the Australian Open and Queens. Each tournament has a cash prize, and your share is decided by which



Full length view of court

round of the tournament you reach. The real depth of the game is in the season option. A season consists of 22 tournaments, and you can choose which one you will enter. Also included is a save game option, which allows you to save the current position, including your current bank balance to disc or tape. You can also choose to alter your skill level or the length of game here.

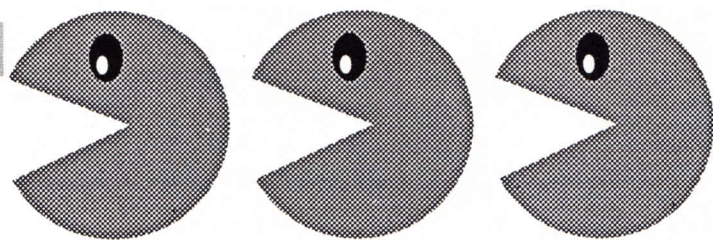
The gameplay of ITDT is great. On the two easiest levels, your little man flashes when he is in position to hit the ball, and all you have to do to send the ball back is press the fire button. The direction that the ball takes depends on where the joystick is positioned when fire is pressed. On the higher levels, there is no more flashing, and the amount of times you press the fire button decides the strength of your shot. You control the movement of your player in any direction until your opponent hits the ball. Then the computer lines you up for either a forehand or backhand, and all you can do is move closer to the net or the base-line. There are 64 different computer opponents, and these are spread through 15 different



Motion shot of service backswing.



# MENT CENTRE

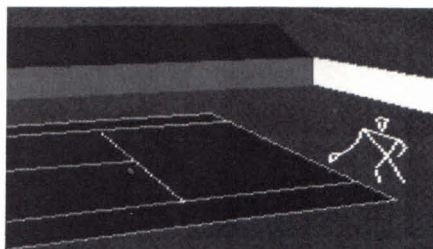


**CPC Disk - \$39.95**  
**CPC Tape - \$29.95**

skill levels; from easy-beats to almost unbeatable. There is one draw-back for tape owners; because of memory restrictions there are only eight tournaments available and no season option.

One area where ITDT shines over other tennis games is the viewing angles. With any tennis match you can view the action from any of 10 different angles around the stadium, but these are only really useful when you view the program demo. The animation of the two players is great, moving, just like real players as they await the service. The heads and bodies move convincingly, and the computer opponent seems to act a bit like John McEnroe every time it loses a point (ie approaching the net in a hostile way). Both players move between points in an arrogant manner, strutting across the court. At the end of a match both players approach the net, shake hands and exit the court together. Score during the game is shown in the top left hand corner, with a coloured arrow indicating which player is serving, in case you forget. The main score board is viewed from below, looking up at it. This makes it fairly distorted, but screen shots from the Amiga version reveal the same problem. Although it detracts from the appearance of the game, it's only a minor complaint.

With ITDT Palace have produced a revolutionary tennis simulation. It looks like it's done with old programming techniques, but the animation it produces is great. If you enjoy tennis, but can't play the real game, pick up a copy of ITDT. If you don't like the sport, give it a look purely for the animation of the players.



*Ready for a lob.*

## ↓ ON REVIEW ↓

- **International  
3D Tennis .....28**
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# SECRET OF THE SILVER BLADES

New to the series of Advanced Dungeons & Dragons

PC 5.25" - \$69.95

"The frigid valleys of the Dragonspine Mountains echo with the desperate plea of terrified miners; "Heroes of the Forgotten Realms, save us from evil!"

"Unwittingly digging in unhallowed ground, they have disturbed an ancient vault and released its terrible content. Scores of horrific creatures now infest the mine shaft - and threaten to escape into the world above.

"You and your heroes must find the way to contain this scourge. All hope depends on your ability to unravel the age-old mysteries surrounding this vile infestation."

You've long awaited Volume III of the Advanced Dungeons & Dragons series - The Secret Of Silver Blades - another long adventure with a long name. And it is well worth any wait, (except the one between loading the game and the starting screen, that's a doozy!). A word of advice; when entering into a game you must refer to your Journal to find specific code words in order to be allowed to proceed - remember to INCLUDE the red sub heading when you are asked to count the words of any given entry. Failing to do so will see you waiting yet again for the process of loading to repeat itself.

As with previous games you begin by selecting characters. Same rigamarole - choosing race, class, gender and alignment, or avoiding all of the complicated choices and using the characters already provided.

"You have grown bored with peace and yearn for a new adventure..." your introductory screen informs you, and coincidentally the adventure begins.

Some of us have adventure thrust upon us! After setting up your party and reading the information in the Adventurer's Journal, it is time to head for adventure, fame and glory. During your adventuring the party will engage in fierce battles, find treasures, and sometimes have to stop, recuperate, and memorize spells for future use.

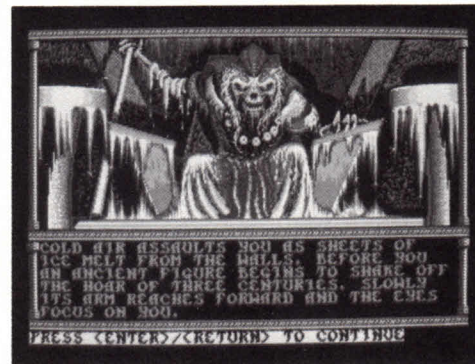
You have the option of proceeding through your game alternating between three different points of view: 3-D, area and combat. 3-D appears in town, underground and so on. Area provides an overhead view of the party's surroundings, replacing the 3-D view. Combat view occurs automatically whenever

the party engages in battle. The combat screen is a detailed view of the area the party was in when the encounter began.

Options being your means of progression, you are naturally constantly provided with command choices to keep you in control of the game; these include the Adventure Menu, the Encamp Menu, Rest Menu, Alter Menu, speed Menu, Level Menu and Magic Menu, to name a few.

The place... In the mining town of Verdigris you will find an armoury, hall, temple, bar, and the Mayor's and Mage's residence. The mayor's residence you will treat as a sort of home base, finding it a good place to rest and gather information. The Mayor will provide a safe place to rest and will keep you well informed.

The action... When a party comes across monsters or such an encounter occurs. If the party attacks immediately it may receive a bonus to its initiative in combat. If monsters surprise the party the monsters



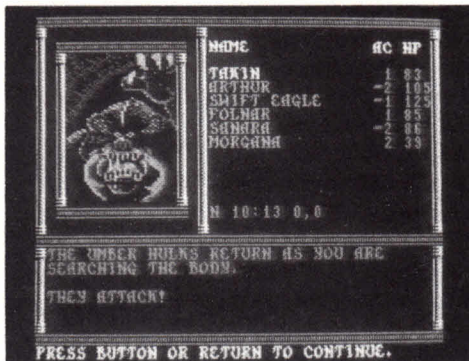
One of the many figures you will encounter.

can attack immediately and get a bonus to their initiative in combat. Sounds fair to me.

The battles... In combat the computer chooses the active character. Characters with higher dexterity will tend to go before characters with lower dexterity - probably just as well.

Like any adventure role playing game, it is a game that you would need to spend a great deal of time at, which shouldn't be a problem to those who enjoy a good fantasy. Save your game as you go along and you could be kept well entertained for any amount of time. Because it is always there, your game doesn't run out like a book or an overdone TV series. The more experienced you become, the more proficient your skills become, and henceforth the more interesting your adventures have the potential to be.

Experienced or not, you will nonetheless enjoy colourful graphics and an interesting terrain, and will find the characters and creatures that are presented to you full of personality. What more could you ask from your own imagination?



The screen issues a warning.



# STUNT CAR RACER

Full circuit excitement from Microprose

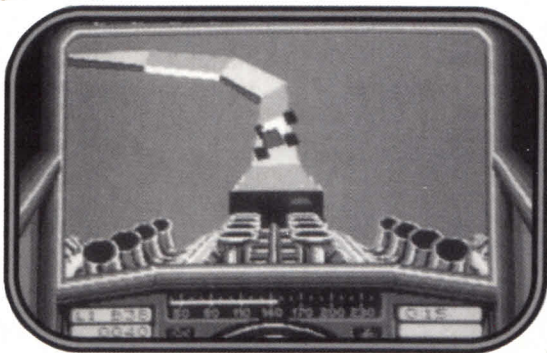
PC Dual - \$69.95

You're not just in it for the joyride this time - forget your life, you have a whole career hanging in the balance here. This will separate the maniacs from the real drivers. As a Stunt Car Racer, you're blasting around eight roller-coaster tracks at over two hundred miles an hour, pitting your wits and high speed driving skills against computer controlled opponents or a friend via a datalink cable, all in fast, smooth 3-D graphics.

Your instruction booklet will lead you into the character of a rough as guts, sparsely educated racer - an interesting viewpoint that leaves you sporting determination, ambition, and a very crude thought pattern. Oh, go ahead, pretend to be him/her if you really want to,.....or better yet release your own latent wildness from that stifled self of yours and run rampage with your own recklessness. Everybody has a little bit of a petrolhead in them!

You also have before you a history of racing in all its glory, just so you'll know where you stand.

*View from the driver's seat.*

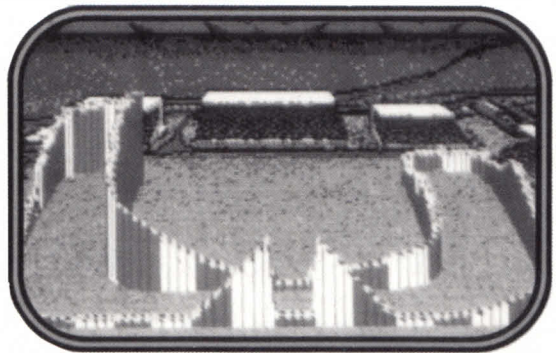


The step by step lead in to the game may give you a false sense of security, but when your game begins you may not be able to find your footing. That's because you don't have any. You begin each game suspended in mid air by a crane until you command your own drop start release once you are above the track. You'll find this a great beginning to the races ahead of you, (unless you are subject to motion sickness), as the roving view and 'bouncy' sensation gives you a wonderful sense of realism.

So the race is on! Remember, you're not just beating the clock or trying to stay on track, you're up against opponents (whom I have yet to see crash!) who stand in the way of your future success.

An added challenge above and beyond your average simulated race track, the road on which you travel is elevated, so veering off course is more often than not fatal rather than merely inconvenient. You will find yourself cruising - not entirely with ease but not with discomfort - and eventually get the hang of the sudden curves in the road, sharp horizons that leave you airborne and stubborn ninety degree walls.

*Bird's eye view of the track.*



And you'll become accustomed to nasty accidents! It's a long drop in some places, so you can see the sky revolving past your windscreen as you tumble over the edges, fall swiftly and feel your car bounce maybe twice or thrice before coming to a halt in the dust. You can almost hear the crowd roaring, and lets face it, as a stunt driver you just love the attention.

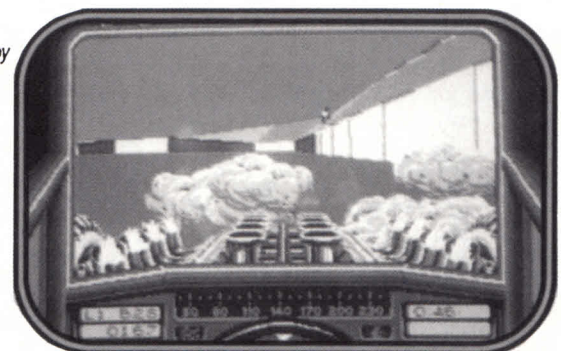
It's a bumpy ride overall, and as I mentioned earlier realistic - you can feel yourself flying and landing with each manoeuvre and thus have a lot of fun whilst you challenge your opponent.

The screen is always as interesting as it needs to be and the sound accompaniment is so appropriate it is almost subtle. Variety is the spice of life-threatening scenic drives, therefore each level provides you with a new track and a new challenge. If that's not enough for you, try it one-handed.

The interest factor is as strong as your ambition, as the levels of difficulty are threaded together under the guise of a continual racing season, to give you career incentive.

Overall it is a fun game, despite the dog-eat-dog approach the driver requires for success. As challenging as any other driving simulation program, it seems somehow less stressful, perhaps because of all that bumpy ride quality motion. I don't have a licence, so all driving is a game, and this was thoroughly enjoyable. The instructions are clear, thorough, easy to follow, and come packaged in a nice box. You'll not be disappointed with it.

*Dust clouds are stirred by your crash landing.*





# PICTIONARY

The game of quick draw from Domark

CPC Disk - \$39.95 Tape - \$29.95

PC Dual - \$59.95

The computer version of Pictionary is not entirely different from the original box game, though the mind does boggle over how a charade-type game can be played between players and a computer screen.

Played on the format of a game board - your screen - the game objective is to identify the mystery word by guessing through clues sketched on the computer screen. With each word guessed correctly you or your team earn a spin of the die that will advance your counter further along the board until one team reaches the final square, guesses the final word and thus wins the game. One to four teams may play, or alternatively one player may play solitary with the computer.

Each game square has printed on it a letter, signifying the category from which your next word will be drawn. These categories are P) Person/Place/Animal; O) Object; A) Action; D) Difficult; and AP) All Play.

There are two ways of playing Pictionary. Either the computer draws the picture and the players guess the word, or a member of each team draws the picture for her/his team mates to identify. There must be at least two players on each team to play this way and team mates must take turns to be the picturist.

Word cards are provided on which the picturist must find her/his word by looking it up on the grid under the relevant topic heading.

While the word is being drawn players on the picturist's team may interrupt to guess the word prematurely and earn themselves a time bonus, a reward system that you won't find in the box version.

Should they guess the word correctly they are granted a spin of the die, move forward around the board and continue to take turns until such time as they fail to guess a word. When this happens the next team will take their turn and so on. How exact you need to be with your answers will depend on a group decision made by all players, preferably at the beginning of the game, to prevent disputes. Usually it is simply a matter of common sense.

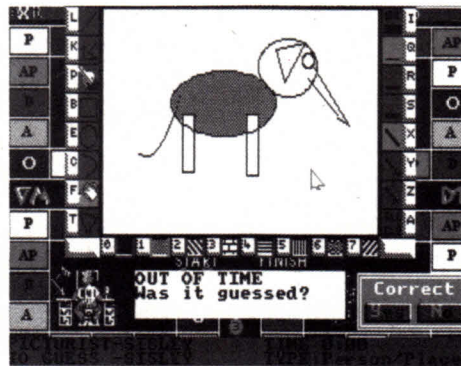
The one downfall of the game is in the instruction booklet. Whilst it gives a decent game synopsis for you to understand what is required, the actual game instructions aren't very clear, therefore would leave players who are not familiar with the game confused as to what to actually do.

The game in many ways relies on the player/s' honesty. One Player will find it very easy to cheat,

were she/he so inclined. Because you choose when to interrupt the drawing for your guess, and are then told the answer by pressing the appropriate key, it is up to you to tell the computer whether or not you have guessed correctly. Cheating, therefore, is as easy as lying. At first I thought this process operated by the player selecting a yes/no answer to the computer's supplied word, and that that was the player's only task, to tell the computer whether it was right or not. The answer was always yes and it was too easy to win. As I said, this is not explained very well in the manual.

I have a couple of gripes about the computer's drawing techniques. Firstly, when beginning a drawing it will often begin with other images before it gets to the actual representation of the chosen noun, so

guessing becomes a matter of luck. For instance, when depicting the word "smile" it went through the rigamarole of drawing the entire face, and not at all sketchily. Which brings me to the second point. Its pictures are too detailed and full of redundant features, therefore waste valuable time in the making. And finally, on many occasions the images it chooses are not the best ones to portray the word. Is this an attempt to give the computer some endearing human qualities? (Eg: if you come across the image of "melt" you will



*Need I tell you what this is?*

see what I mean, that there was no way of guessing that the cube was actually ice. At first I guessed it to be a toaster.)

People improve as they go and become more succinct with their diagrams, whereas the computer obviously cannot.

If you want an opponent that doesn't cheat, by all means play One Player mode. It doesn't moan like a human loser and doesn't rub it in like a human winner. Otherwise, use teams and conquer the computer's slow, perfectionist drawings by ignoring them altogether. This means doing your own drawings, which will be quite amusing to watch considering that pencil dexterity has no influence on the individual's skill in drawing with the computer tools!

If you don't mind the discomfort of the team effort of huddling around the one computer screen for as long as your game will last, and you like the convenience of being able to play a good game with a mechanical opponent that won't guzzle all of the coke and chips, then I can only recommend Pictionary. It is fun, challenging and not at all inferior to its cousin the cardboard box version.



# ESCAPE FROM HELL

A Helluva lotta fun! From Electronic Arts

PC 5.25" - \$49.95

PC 3.50" - \$49.95

"Tired of deep role-playing games that climb down itty-bitty ladders to dungeons a mere 20 or 30 feet underground? THEN PLUNGE INTO THE DEPTHS OF HELL ITSELF!

"Bored with the same old monsters and peasants dreamed up to scare kiddies way back in the dark ages? CONFRONT THE VEILS OF THE MODERN AGE, FROM HEAVY METAL ROCKERS TO SLEAZOID POLITICIANS!

"Can't get excited about orcs, trolls, and half elves? HOW ABOUT EASING THE TORMENTS OF A KINKY EVANGELIST OR A SADISTIC PHYS ED TEACHER!"

So reads the box. Along with the warning: "Contains nudity, violence and controversial images." Take heed, this is strictly adults only! Morally unsound, methinks. What, are you still reading this? Then your morals are beyond salvation.

If religion and the occult aren't sensitive issues for you then you will most likely have a lot of fun with this game. The array of characters that parody historical figures take the mickey out of evil to amuse you as you go along. Very comical, you'll find.

My only real gripe is that the instruction booklet is next to useless for the beginner player. If you have the option of creating your own characters it doesn't show you how. Nor does it show you how to start the game, you are simply required to plunge in and find your way as you go. It doesn't describe the different levels to you and neglects other such important information. Nevermind though, if you have plenty of initiative you will work it out, and once you are in you will enjoy it, even with blinkers on. And you'll find it much easier to get accustomed to than your average adventure game. You will find it easier to gain skill and thus find it more generous with experience points. It pays to be evil!

Your plot is simple and explained properly during the introductory screens, where you are eased into the adventure in story form, a TV-type presentation.

Your game then begins. You find yourself surrounded by crags and fire pits, in a small clearing that contains an empty chest and a telephone booth, the Divine Phone of which you are to discover has been disconnected. You will also discover that you have been abandoned by your guardian angel. Tough break.

Before reaching the gate you will come across the first of many encounters, fortunately this one friendly. If you choose to talk to the monk he will say

to you,"I believe everything I did was right and pure. I followed the doctrines to the letter, even if I didn't understand or agree with them. They were just greater than I could comprehend! This must be Heaven. Boy, the brochure sure was misleading!" Do I detect an undertone of socio-religious cynicism there? There is a serious side afterall.

Of course, you needn't talk to the monk, you could be an utter @#%\*& and choose to annihilate the friendly soul just for the fun of it.... but remember, even in Hell you must answer for your actions!

Fortunately friendly, yes, but I speak too soon. Through the gate you will encounter the first of many battles. Good luck, sucker.

These first two encounters will be typical of the types of characters you will happen across throughout the game, but I can happily say that none of them lack originality and quite often the interactions will be tainted with a good sense of humour.

There is a map of the crag-covered landscape in the centre pages of your instruction booklet. Use it. On it is marked the few cities that are there for you to wander. You learn a great deal as you go, and collect objects that will come in handy at later stages.

In hell you will find a post office with a sign outside that reads; "Post Office of Hell! It doesn't rain, sleet, or snow here and the mail never goes through!" ha ha ha. Just an example of the constant source of amusement.

I am guilt smitten for having had to attack a friendly Hell Guard for taking too long to get out of my way in the Office of Redundancy. Well, I wasn't going to stay there forever!

Like all good losers I "came close" to winning my way onto the next level. But whilst I was good, I wasn't quite good enough to find the famed nudity screens that are probably what entices the customer to the box. If only I had learnt the 'Give' command sooner! Can't give you an insight there, sorry.

"Escape from Hell" is a humorous role-playing game that allows you to take a break from the usual serious adventure and 'ave a good laugh. The graphics are wonderful; colourful, animated and full of variety. A great Hellish ambience is created by the border of skulls and skeletons, and the introductory tune has not a hint of a cathedral dirge. A game well worth the trouble of conquering the poor instruction booklet that is so guilty of omission. But you never will learn what the the word is that sent them into Hell in the first place!



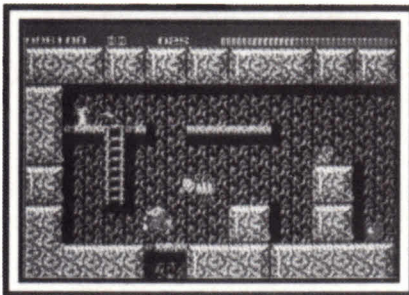
View of the landscape of crags and fire pits.



# IMPOSSAMOLE

Another cool crusader, from Gremlin.

CPC Disk - \$49.95  
CPC Tape - \$39.95

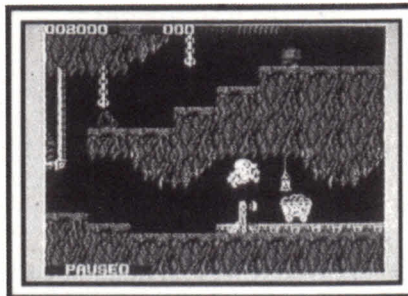
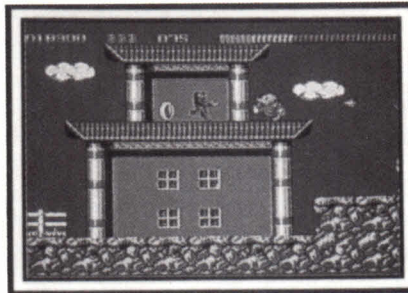


"Monty lay back on his sunlounger and contemplated his situation. His previous adventures had financed these last few years of utter bliss. He had everything that a mole could want. His own island in the sun, more money than a mole

could ever spend - paradise! Listening to the clear blue sea lapping at his furry feet, he surveyed his surroundings and saw nothing but unspoiled beauty. In the last few days thoughts had appeared in his mind..."

But you can guess what Monty Mole doesn't have! He is a victim of the bored house-husband syndrome, needs some excitement in his life. It is perfect timing, therefore, that he should suddenly be teleported into an alien spacecraft that appeared out of nowhere and be asked to vanquish the Five guardians to save an alien planet from doom.

The game is played over five levels, the first four of which you may select at random. The fifth, however, is reserved for those who are skillful enough to successfully finish the other four. That's just about all that the instruction sheet will tell you about your role in the game, apart from some very brief information about gathering supplies and weapons.



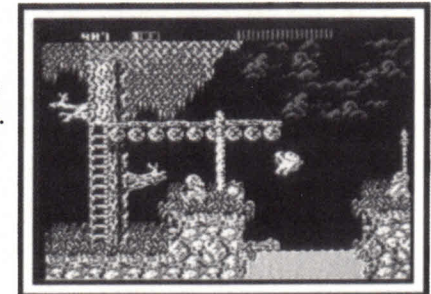
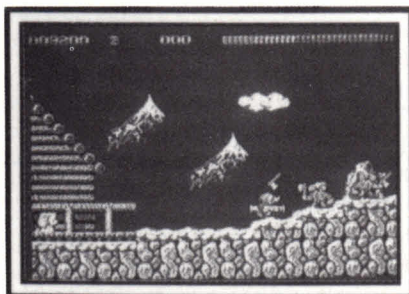
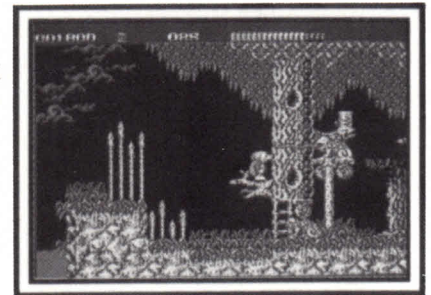
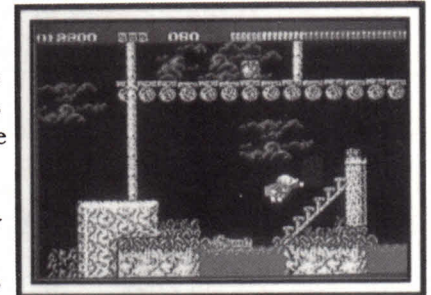
say is that the option to select a level at random is great, as it means variety is available to you without your having to first gain skills by repeating the same manoeuvres again and again.

The game is not at all boring, not only because you have to find your own way seeing as you don't have a clue as to what you are doing, how to collect objects or who your opponents are to begin with, but because the superb graphics make the screen bright and colourful and busy at all times. The tune that accompanies the introduction is fun and lively, and the sound effects throughout are kept on the same interesting level.

You will discover that the 'alien planet' is Earth, and the levels as such are named Klondike, Iceland, Amazon and Orient. They aren't too difficult to get through once you have practised and know what you are doing. But that's not to say that they're too easy either!

There are a few things that would be handy for you to know: one is that the bars at the top right corner of the screen represent either your number of lives, the amount of energy or the amount of strength you have left. If you notice these reserves disappearing at an alarming rate, then you are doing something wrong. Which will inevitably lead you to discover that the sound that reminds you of wet shoes squeaking as you walk is actually Monty being killed.

Impossamole is potentially a great game, and I'd recommend it despite the poor instructions. It's absorbing and entertaining, and conveniently would be suitable for any age group. It's a pity that a good game could be let down by such a lazy proffering of information.



It's meagre explanation goes like this; "The playing tips have been kept to a minimum. The surprises are numerous and need to be experienced." Well, I'm going to destroy that for you now by telling you about it!  
The first thing I must



# TUSKER

Hereditary adventure, from System 3

CPC Disk - \$44.95

CPC Tape - \$29.95

"The legendary Elephants' Graveyard is the greatest undiscovered mystery of the dark continent. The hazardous quest for its discovery has cost the life of many an intrepid explorer, one of whom was your father.

"As his only son, you are curious to uncover the secrets that are so violently guarded from the outside world. You now feel compelled to succeed where your father failed.

"As 'Tusker' you will experience all the thrills, danger and excitement of Africa as you go in search of your father's dream.

"Your journey through deserts, river caves, undiscovered jungles, swamps, cannibal villages and sinister temples, where you will encounter anything from hostile nomads and hungry zombies, to blood-thirsty dinosaurs and very unhappy witch doctors."

All of the excitement of a Tarzan movie! I was very impressed with the instruction booklet for this game, as it gives you an interesting history in the introduction, has the most thorough and easy to follow step by step guide I have ever seen and even gives you a few hints on how to get through the first level. Just so you get the gist of it. It also has cryptic hints in the amusing captions accompanying the object inventory, (see diagrams). Now we are amused before the game has even begun!

Your objective is ultimately to reach the Elephants' graveyard, but during the course of the game you will find that

**Knife**  
Will give you a cutting edge in combat, but don't be thrown by its simple appearance, there's magic in the air.

**Machete**  
Stanley could never have found Livingstone without one.

**Gold Nuggets**  
Could relieve you of a weighty problem and lead to a more balanced outlook.

**Pocket Watch**  
There is no time like a present.

**Idol**  
Three little monkeys could be well placed to reveal all.

**Key**  
Unlock a native's good nature for the present

Scroll 14

**Medicine Bottle**  
Which doctor would mean only one bottle.

**Flask of Acid**  
Unshackled, you could get a quick burn through the jungle.

**Book**  
They say one's destiny is mapped out, well not till you lift this problem from your chest.

**Clenched Fist**  
It's all you've got in the beginning.

**Bullets**  
There is a strong case for having these, but don't count on them forever or you may come up blank.

**Box of Matches**  
Strike out and go on ever forward and don't idol away too much time.

Scroll 15

collecting objects, weapons and just surviving will keep you occupied enough to forget that momentarily.

You begin the game barehanded and possessionless. In order to survive you must find and pick up, (a skill that takes practise!), as many objects as you can as you go. Of particular importance are the waterbottle and the knife, because without these you will be unable to replenish your constantly depleting supply of water, a burden that could see you dead if not catered to.

The foes your hero will have to deal with become more complicated as you progress through the levels, beginning mainly with hostile Arabs and thirst. The more weapons

and objects you collect, the more skill you will be able to acquire and the more interesting your struggles and confrontations will become.

The graphics are not at all like the screen shots you will find on the bottom of the box, but they are not at all bad for a CPC screen. Although placed in a rather sketchily drawn landscape, the figures seem so much more agile than figures found in other games, where they move awkwardly in their two dimensions and seem so rigid.

Background sound is for the most part absent but the rest of the sound effects are quite good, and the introductory music offers just the right amount of dramatic urgency befitting a good safari adventure like this one.

Have fun, but if and when you find the Elephants' Graveyard, be sure to hand it over to an appropriate wildlife organisation and let the dead rest in peace - or we'll get the animal liberationists onto you!



## KLAX

Impressive arcade conversion by Tengen

CPC Disk - \$39.95

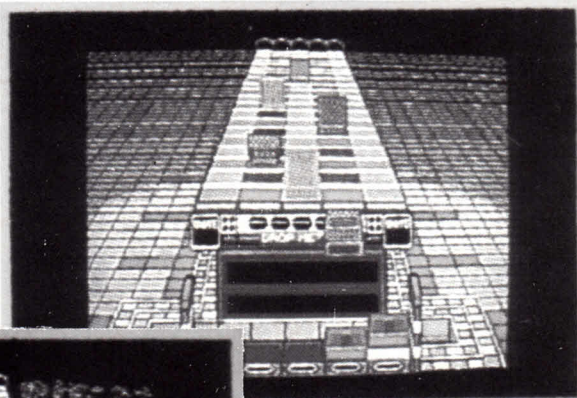
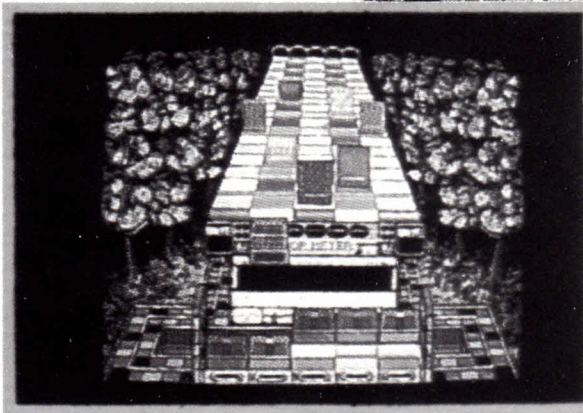
CPC Tape - \$29.95

In the beginning, the humble Homo Sapien was only able to play tic-tac-toe. Then, from the land that brought the Glasnost, the magnificent Tetris was born.

Now, in our advanced day and age, we have a new puzzle game to play. It's fun, it's addictive, and it goes by the name of .....KLAX.

Klax is a simple game to play, but a hard game to master. The name Klax is what the game is all about. Your aim is to make a number of Klax, which differs for each level, to score points and complete the pre-set objective. A Klax is any connection of three or more coloured tiles in a row, either vertically, horizontally or diagonally. The more difficult the Klax to form, the more points you score (e.g. a vertical Klax only scores 50 points whereas a diagonal Klax scores 5,000). That's all the game is about; a simple concept but infuriatingly addictive.

Upon loading, you are presented with a simple title screen, followed



by the credits. If the graphics in the game were as simple as these screens, the game would be a big let down. Luckily, the game itself has great graphics. The game can be played with either joystick or re-definable keys, and once you've made this decision, it's into the game proper. Klax has three levels, or waves. If you choose one of the higher waves, you can afford to drop more tiles, the type of klax to be formed are harder, and the speed of the tiles coming down the table is faster. To start, it's recommended to select Wave 1, even though for the higher ones a substantial bonus is offered for success.

The game is viewed from the bottom of a long table. Tiles of different colours are released from the top of the table, and they tumble towards you. All you have to stop them is a single paddle, which you

can move left and right, or use to knock the tile back up the table. Be warned; tiles come back, but this is useful if you want to get a different coloured tile first. At the bottom of the table are five sections, each of which can hold five tiles. Your aim is to form klax in these areas, in accordance with the pre-set objective stated on the intro screen for each level. Once you have caught a tile on the paddle, pressing the fire button flings the tile into the area you have positioned your paddle over. Form a klax and that stack disappears. Fill the bins, or fill the drop meter and you loose one of your credits. You have three credits

before it's game over, so you'll have to keep your wits about you to reach the higher waves. When you complete a number of waves, you are again presented with the level screen, and you are given the chance to select a higher level, with the big bonus, or continue unchanged.

The concept of Klax is quite simple. But

what makes it stand out initially are the graphics. The graphics of the table, the tiles and the backgrounds are very good. There are three different types of background graphic, and each is well drawn. Animation is good, with the tiles and the paddle moving smoothly. Sound is limited to a jingle when a klax is formed and the thud as each tile drops into its bin. Klax has everything a good game needs to have in order to become a hit; it looks good, it plays well and has that something that demands that you have just one more try.

Tengen have now produced a number of conversions from arcade games. APB and Vindicators are just two that weren't too bad. With Klax, they have produced a hit. It's the type of game that's easy to understand and simple to come to grips with. However, it is also a game that I think will be difficult to master. This type of game doesn't normally appeal to me, even though I like Tetris. But Klax has now replaced Tetris as the best puzzle game that I've played. In fact, the game concept is so simple that my six year old daughter has played it and loves it as well. Klax - a game that's easy to get into, but one you'll keep playing for months to come. Good one Tengen; I just hope that your next programs (Cyberball and Escape From The Planet Of The Robot Monsters) are just as good.



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# The Graphic Details



*Gary Koh brings you Part One of his insight into the wealth of graphics commands available through GW Basic.*

One of the more powerful aspects of GW-BASIC is its graphics support. Compared to Locomotive Basic its graphics support is absolutely fantastic, with commands to draw ellipses and circles, do pattern fills and even a simple sort of turtle graphics function. This is the first part of a series to show you how to use the graphics commands in GW-BASIC and to make good use of them.

With all the power of the graphics commands it will not be easy to explain them. This is not helped by the fact that there are two graphics standards GW-BASIC can support. As you all should know, there is CGA, EGA and VGA around. The version of GW-BASIC I will be basing this series on, 3.2 (which comes with MS-DOS version 3.3), has support for CGA and EGA. I suppose they thought that it would not be worth implementing VGA. In any case, the real plus of the basic VGA is its colours, which would be hard to make use of in Basic.

The problem is that CGA and EGA are so different that I am going to have to virtually split this series in two. I could cover just CGA, which EGA can also handle, being downwards compatible, but I think this would be a bad compromise. When you buy EGA you expect to be able to do things in EGA, so I will be covering both.

## SCREENING

In GW-BASIC the command to change screen modes is called (Guess what) SCREEN. This controls both the graphics and the text modes. We will only be concerning ourselves with the more interesting graphics modes. Screens 1 and 2 provide the CGA modes, 320 by 200 pixels with 4 colours and 640 by 200 pixels with 2 colours respectively. These two modes are only available in CGA configuration. The other screen modes, 7,8,9 and 10 are available only on EGA or higher.

Screens 7 and 8 offer exactly the same as screens 1 and 2 except that they both offer 16 colours, (similar to the PC1512's special mode). Screen mode 10 is a special one for monochrome monitors, which

offers 640 by 350 pixels with 4 grey scales. Screen mode 9 is the one that should interest us, offering the full EGA resolution of 640 by 350 with 16 colours. The modes we will deal with are 1, 2 and 9.

The SCREEN command is a bit more complicated than it first seems. There are actually four parameters. The first one is the screen mode you want. The second is called "active", and does nothing at all so you can forget about it. It was apparently connected with enabling and disabling colour in earlier versions of GW-BASIC. The third and fourth parameters, outpage and seepage, deal with which page GW-BASIC should write screen output to.

CGA users need not concern themselves with this, as their display cards do not have enough memory to support the function. EGA (this includes VGA users, in case you have forgotten) users with 256Kb of memory can worry about it. You can think of a display page being one of several pages of display being held in display memory. You can swap between them and write to whichever one you wish.

The amount of pages you have depends on which screen mode you are in. Display pages are available in screen modes 7,8,9 and 10. As I will only be going into mode 9, I will mention this one. If you calculate it, 640 by 350 pixels take up 28Kb of memory. To encode 16 colours takes up 4 bits, so you have to multiply that amount by 4 to find out the amount of screen memory it takes up. The end figure is 112Kb of memory. With 256Kb of display memory that means you can have up to two display pages.

Outpage is the page that you want to write. Seepage is the page that you want to be currently displayed. By setting both to different values you can write to a hidden page while displaying the other page. This way you do something while showing the user a different thing. We will be seeing later on in this series how this can be put to effect.

The major problem is that, unlike on the CPC's, modes 1, 2 and 9 use different coordinates, making life very tough for people trying to write articles or programs using graphics. In mode 1 the coordinates



extend from 0 to 199 and 0 to 319. In mode 2 it is from 0 to 199 and 0 to 639. In mode 9 it is from 0 to 349 and 0 to 639. It is funny how the people working the CPC (which is not very powerful) had more brains than the people at Microsoft (who wrote GW-BASIC) who are working with a more powerful machine.

This has made it one long pain in the neck to explain. As if things were not bad enough, the GW-BASIC developers apparently decided they would like to use non-standard screen coordinates. For the text display the coordinates are y/x, not x/y. With the graphics screen the coordinates are x/y. However in a departure from the standard Cartesian system, the co-ordinates start from the top left hand corner, not the bottom left hand corner. Fortunately, this state of affairs can be changed by using the WINDOW command. Maybe the developers aren't so brainless!

#### CO-ORDINATING WINDOWS

The WINDOW command redefines the coordinate mapping of the graphics screen. You can define an area of the screen in terms of an area of pixels. For instance, screen 9 has a coordinate system of 0-349 and 0-639. It is possible to change it so that the co-ordinates are say 0-699 and 0-1279. That does not mean that the resolution is 1280 by 700 pixels. The physical resolution is still 640 by 350, but the logical resolution is 1280 by 700. It allows you to scale drawings as well as change to the cartesian system.

Like most commands, the graphics coordinates are specified using brackets (for example, (34,45)). In the case of WINDOW you need two coordinates, to specify the opposing ends of the window. The coordinates can come in any order and are represented by (X,Y)-(X2,Y2). If you want to retain the original coordinate system you have to add the word SCREEN after WINDOW. This gives a statement in the form of WINDOW SCREEN (X,Y)-(X2,Y2). If you want to have the cartesian coordinate system, which is what we want, just omit SCREEN from the command.

So much for sorting out the settings of the screen. I think it is about time we get to the actual graphics drawing commands themselves. The first two we will look at are PSET (also know as PRESET) and POINT.

#### DRAWING IN STYLE

PRESET and PSET do virtually the same thing, plotting a single point on the screen. The only difference is that if no colour is specified for PRESET then the background colour is used for plotting the point, whereas PSET will default to the current selected colour.

The format for the command is PSET (x,y), colour. In mode 1 the colours available are numbered 0-3, in mode 2 they are numbered 0-1, in mode 9 they are 0-15. The co-ordinates refer to the usual screen dependent sort. The following listing gives an example of what PSET and PRESET can be used for. Change the value in line 120 to the screen which suits your kind of display.

#### CREEPIX

```
100 ' Creeping pixels
110 '
120 SCRMODE=9
130 SCREEN SCRMODE
140 CLS
150 IF SCRMODE=9 THEN PRCOL=3 ELSE PRCOL=1
160 FOR COUNT=1 TO 10
170 FOR X=1 TO 6
180 PSET(X,150),PRCOL
190 NEXT
200 FOR X=1 TO 640
210 PRESET(X,150)
220 PSET(X+6,150),PRCOL
230 NEXT
240 FOR DELAY=1 TO 1800:NEXT
250 NEXT
```

The KEY OFF command gets rid of the row of function key assignments at the bottom of the screen as well as the coordinate of the last addressed point on the screen. This is similar to what TEST in Locomotive Basic does except it does not give the coordinates as well.

This command is actually a function, because it returns an integer value which can be placed in a variable. You can have VARIABLE=POINT(X,Y), which test for the colour of the pixel at location x/y, or VARIABLE=POINT(COORD), which returns the value of a coordinate. COORD can have a value from 0 to 3. 0 and 1 returns the value of the x and y coordinates of the current addressed point respectively. 2 and 3 are the same as 0 and 1 except that it is in relative terms in relation to the current WINDOW definition.

Another related command is LINE. As you can work out from its name it draws a line. However, it can do more than just draw plain old boring lines. It can also draw boxes and dotted lines as well. The format of the command is LINE (X,Y)-(X2,Y2), COLOUR,BOX,STYLE. All except the coordinates are optional. The BOX and STYLE options are mutually incompatible (that means they do not get along well). If you are using the BOX parameter then you leave off the last item. If on the other hand you are using STYLE then you need to have two commas side by side, like this -,,- which means the BOX option is omitted.

The COLOUR option is quite self explanatory, but the other two will need some explanation. For BOX you can have either B or BF, which make LINE draw a normal empty box or a filled box respectively with the corners specified by the two coordinates.

Style can have a value from between 0 to 65535. Those that are sharp may notice that the value range is the same as 216. The value of style is bit significant rather than having any decimal pattern. The bit pattern can be up to 16 bits long, each bit representing a pixel, so the line you draw can have a repeating



bit pattern that represents a length of 16 pixels. If a bit in the pattern is set then a pixel is plotted there in the current colour. If a bit is not set then the pixel at that position is left alone. That means things in the background will show through the gaps in the line. If you do not want this to happen then you have to draw a line in the same position in the background colour to erase the material there.

For example, maybe you wish to draw a narrow dashed line. The binary value for this would be 1100110011001100, which is 52428 in decimal, or &HCCCC in hexadecimal if you prefer. Try the following line, which will work in screens 1, 2 and 9.

```
LINE (10,10)-(200,150),1,,52428
```

So far we have been using what are called absolute coordinates. In addition to this you can also use relative coordinates. All you do is add the word STEP before each of the coordinates you specify. For instance, the following short program draws triangles all over the screen. The triangles themselves are drawn with LINE commands using relative coordinates. Like the other program above, change the SCRMODE value in the program to the screen that suits you.

## TRIANGLE

```
100 ' Triangle
110 '
120 SCRMODE=9
130 SCREEN SCRMODE
140 KEY OFF
150 CLB
160 COLOR 1
170 FOR COUNT=1 TO 130
180 X=INT(RND*250)+30:Y=INT(RND*150)+30
190 PBET(X,Y)
200 GOSUB 240
210 NEXT
220 END
230 ' Draw the triangles themselves
240 LINE STEP(0,0)-STEP(20,-32)
250 LINE STEP(0,0)-STEP(-40,0)
260 LINE STEP(0,0)-STEP(20,32)
270 RETURN
```

## COLOURING UP

With EGA you can have up to 16 colours on the screen, chosen from a palette of 64 different colours. Colour in CGA is very limited in comparison. Screen 2, the high resolution CGA mode does not support colour at all, being limited to just black and white. Screen 1 has a rather strange limited colour option, very different to that on the CPC's although it has the same resolutions.

With CGA screen 2 you can have 16 different background colours, but for the other 3 foreground colours you can only have the choice of one of two palettes. Palette 0 has colours 1, 2 and 3; green, red

and brown respectively. Palette 1 has colours 1, 2 and 3; cyan, magenta and white respectively.

For screen 1 the format of the command is COLOR (Note the American spelling). BACKGROUND, PALETTE. Background has a value of between 0 to 15 and selects the background colour. Palette selects one of the two different colour palettes, numbered 0 and 1.

In screen 9 (and for screens 7 and 8 as well) the form of the command is different, being of the form COLOUR FOREGROUND,BACKGROUND. Foreground is in the range of 1 to 15, selecting one of the sixteen colours. Background requires a different value, that of any of the 64 colours available. Valid values are 0-63. This actually sets the colour value of colour number 0 rather than selecting a colour number.

There is an additional command, PALETTE, which only applies to people who have EGA, so those who have CGA can skip this. This command is similar to the INK command on the CPC's assigning different colour values to the 16 available colours. This may sound a bit confusing to some of you so I will explain a bit further.

There are a total of 64 different colour values that can be shown. A total of 16 colours can be displayed on the screen at once. Each of these 16 on screen colours can be assigned a colour value of 0-63. It is possible to have some or all of the colours with the same colour values.

The form of the PALETTE command is PALETTE COLOUR NUMBER, COLOUR VALUE. These should be self explanatory. Another form of this command, PALETTE USING, is for bulk colour assignments. This command has a parameter of the form of ARRAY (START), where ARRAY is an integer array and START is the colour number you want to start your defining at. For instance, in EGA, if you want to assign colour numbers from 4 to 12 from the array col, the command would be:

```
PALETTE USING COL (4)
```

For array values 13 to 15 you would have the value -1, which means that the colour value for that colour remains unchanged. If you want to revert back to the default palette values then use PALETTE by itself.

Giving colour names of 64 different colours is no easy job. Trying to distinguish between light reddish hue mauve and light reddish medium mauve would not be helpful either. A different method is used to describe the colours. The value of 64 in decimal is equivalent to 26, or a 6 bit binary value. The colour on the monitor is produced by mixing different "strengths" of red, blue and yellow.

Each of the three main colours can be given 4 different values, 0 to 3, equivalent to two bits of the colour information (which adds up to 6 bits altogether). A colour value of 3 is the strongest, 1 the lowest and 0 has no colour. It is blank. Thinking in decimal instead of binary can make things easier.



The following gives a table of binary-decimal equivalent values for the colours.

	Blue	Green	Red
High Intensity	1	2	4
Low Intensity	8	16	32

Colour value is equivalent to a medium blue, colour value 8 is equivalent to a light blue and colour value 9 is equivalent to a bright blue. By adding together the different colour values you can produce different colours. For instance, combining high intensity blue and red gives colour 5, which is a bright purple.

For people who have EGA at least the following program allows you to have a look at all of the colours available.

COLOURS

```

100 ' Colours
110 ' Program to show the different colours of EGA
120 '
130 SCREEN 9
140 CLS
150 COLOR 1:PRINT"This is colour 0"
160 KEY OFF
170 FOR A=1 TO 15
180 COLOR 1:PRINT"This is colour";A,
190 COLOR A:PRINT STRING$(20,219)
200 NEXT
210 INPUT"Press enter to continue:",DUMMY#
220 FOR COUNT=0 TO 62 STEP 16
230 FOR COLCOUNT=1 TO 16
240 IF COUNT+COLCOUNT<63 THEN PALETTE COLCOUNT-1,COUNT
+COLCOUNT-1
250 LOCATE COLCOUNT,52
260 PRINT"This is palette color";COUNT+COLCOUNT-1
270 NEXT
280 INPUT"Press enter to continue:",DUMMY#
290 NEXT
    
```

That is all there is room for this month. Because there is so much to cover in the area of graphics for GW Basic, the topic will be stretched over a few issues. This should keep you occupied until then! ■

**TO BE CONTINUED....**

The series on GW Basic will continue next month with Part Two of investigating GW Basic Graphics. Gary will be looking at the CIRCLE and PAINT commands, as well as going into some more complicated programs and ways of producing graphics.

# 1-2-3

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# New LocoScript PC



*Mike Turner takes a look at the long awaited PC version of Locomotive's venerable new Word Processor.*

When offered the opportunity to review LocoScript PC, I jumped at the chance. I have long been a LocoScript fan spurred on by hours of keyboard pounding on my faithful PCW8512. In fact the one thing that I really missed when I moved into the big brave world of IBM compatibility was the word processor that I had grown to love. With this new product Locomotive are sure to win the hearts of all PCW owners, who like me have upgraded equipment, or wish to use the same word processing software on a PCW at home and a PC for work. There are some notable differences between the two which I will be covering shortly. However, if you are already familiar with the PCW version of this product, you will immediately feel at home with the new PC version. But I digress. Let's start at the very beginning and look at the installation and use of LocoScript. Then I will quickly compare it with some other PC word processors on the market to see how it stacks up against some fairly fierce competition.

If sheer volume is anything to go by when buying software, then LocoScript PC wins hands down. I was amazed at the size of the package it arrived in. As usual there is copious documentation written in Locomotive's typical easy to read style. Discs of both 5.25" and 3.5" formats were

supplied to suit any machine configuration.

#### WHAT DO YOU GET?

LocoScript PC is a total word processing package. For your money you get a fully featured text editor bundled with some interesting features. Included is an 80000 word "English" dictionary, a full database for storing all sorts of information, and a mail merge facility for producing standard letters, labels and so on. As a by-product of the mail merge facility, you also get the ability to write programs to process your data. These can be used to carry out arithmetical functions for automating invoices etc.

#### WHAT DO YOU NEED?

LocoScript is capable of being run on any IBM compatible PC, PC/AT, or IBM PS/2. It will also run on the Amstrad 1512, 1640 or 2000 series of IBM compatible machines as well as a large range of portable machines such as the new ones from Amstrad, or others from Toshiba, Zenith, Compaq or Sharp. You will need DOS 2.1 or later as an operating system, at least one floppy drive, a monochrome text screen and 512k of RAM. The program does however support the full range of display adaptors currently on the market and really does look quite nice on an Amstrad VGA colour monitor. In fact the display operates in graphics mode so you have a

WYSIWYG (what you see is what you get) presentation. For those in the failing eyesight brigade, which includes me at about one o'clock in the morning, you can even set the display to large characters. This gives a forty column representation similar to Mode 0 on the CPC computers. Not ever elegant, but you sure can read it from the next room. The printer you use will depend on your budget, but rest assured that LocoScript will support it.

#### DOCUMENTATION

I have no complaints at all about the quality and quantity of the accompanying documentation. There were a total of five books and a glossy fold out sheet introducing the package. The books cover installation, a tutorial, a reference manual for the word processor, a reference manual for the database and mailmerge functions, and finally a printers guide.

#### INSTALLATION

The program is self installing by simply typing in one command and then answering various questions about your system and printer. Speaking of printers, here's another refreshing point. Are you sick of trying to pick the nearest emulation to your particular printer when installing software? Well you won't have to do this with LocoScript. It supports just about every printer known to



man. The separate printer information booklet even gives extra helpful information on how to correctly set the dip switches on your printer for perfect results.

In true Locomotive fashion, the installation process is painless. The program is capable of being run from floppy discs, but as is usual for most IBM type applications packages these days, it runs better from a hard disc. The relevant files are copied onto your hard disc by following the on-screen instructions. The installation booklet is quite comprehensive and I had little difficulty getting the thing up and running. In fact the only problem I did encounter was caused by racing ahead of the book. This is quite easy to do as the on screen prompts are fairly self explanatory. Slowing down slightly during the installation process is a wise move.

GETTING STARTED

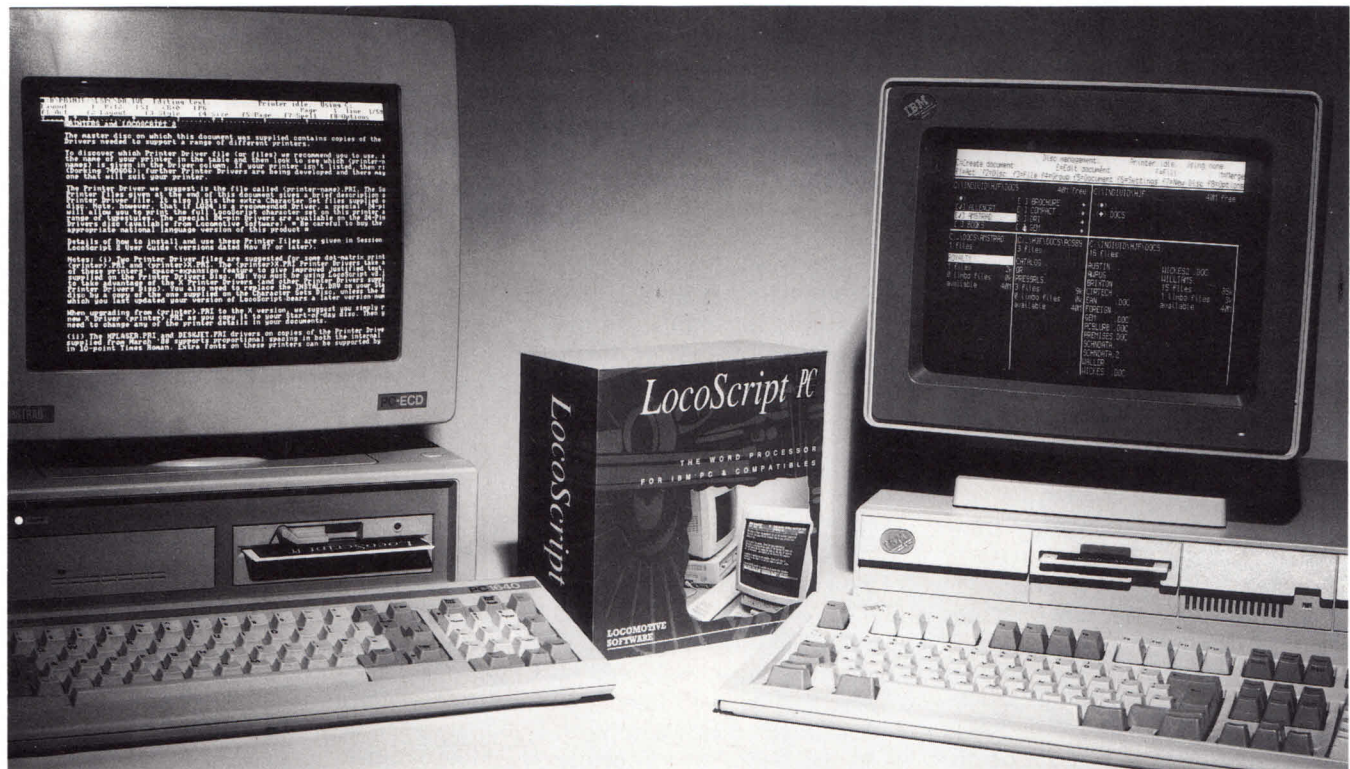
Having installed the package it was then time to start playing with it in earnest. The tutorial is designed to be run from floppy discs, but I quickly copied all the

relevant files over to the hard disc, both for speed of operation and also to try out the disc and file management system within the program. This is where things get interesting for those who have never seen LocoScript of any description operating before. For the newcomers I had better explain a bit about the philosophy behind this package and its predecessors. LocoScript started life in the rather unfriendly environment of CPM. To shield users from the dreaded A> prompt, the program was designed with its own user interface shell. This allowed you to format and copy discs, rename files and so on all from within the program, without ever having to learn anything about the processes that were going on behind the scenes. Well, Locomotive have taken the same approach with this version of LocoScript and, I might add, with a reasonable amount of success.

For those who thought that CPM was unfriendly, let me assure you that MS/DOS on the IBM machines can be equally confusing, especially in the area of disc housekeeping on a large hard

disc drive. The directory structure or tree on a hard disc is a great way of splitting your files up into various categories, but can quickly become very involved. This is where LocoScript shines. The tutorial takes you through all the basics of disc housekeeping in simple terms and introduces you to the LocoScript user interface as painless a way as possible. You will still have to do a bit of reading to understand all the concepts, but newcomers will find they are typing up their first letter in an amazingly short period of time.

When LocoScript starts you are presented with the disc management screen. If you follow the tutorial through you will quickly realise how similar this screen is to a manual filing cabinet. It allows you to organise your files into logical groups. You may create sub-directories (or groups) with ease and transfer a file or group of files with just a few key presses. The whole interface is driven by the use of the function keys which in turn display drop down menus. The prompts on these are clear and concise, and





with only a few minor exceptions, don't pose any frustrating ambiguity problems.

## DOCUMENT EDITING

LocoScript is without a doubt one of the easiest word processors around when it comes to entering and editing your text. Embellishments such as bold facing or underlining can be accessed either by using drop down menus or keyboard shortcuts. Gone is the slowness of the original PCW version, helped by the greater speed of most IBM machines. I suspect it is still a bit on the slow side when moving around the text in your document compared to some other word processors. This is because, (like previous versions), it reformats the text as it goes and makes sure that you never get any nasty surprises at printing time. Also gone is the perpetual insert mode of the PCW versions. You now have the option of either insert or over-typing modes. This makes things much easier when designing forms and filling in the boxes, (so to speak).

Speaking of boxes, you can generate some really amazing forms and documents using the vast array of international and graphics characters that LocoScript can produce. If your spelling is like mine late at night, then you will appreciate the easy to use spelling checker. The other big plus with this particular spelling checker is that it uses an English, not American, dictionary - hallelujah!! On the down side there is no thesaurus available, which can sometimes be handy when searching for that elusive correct (suitable, proper, fitting, right) word; if you get what I mean.

Control over the document's layout is typical LocoScript from the PCW days. For those not familiar with it you can use templates from which you create various documents. If you set up a file in a particular sub-directory called TEMPLATE.STD all documents created in that sub-directory there-after will be set up to

match the template. For example you may wish all business letters to come up with your name and address in a particular style and positioning on the page. Provided you have included this in your TEMPLATE.STD this will happen every time you go to create a new letter in that sub-directory. You may also assign an identity to the document. This can then be accessed from the disc management screen to save you having to open files just to see what the contents are.

Control over headers and footers, paper type, page layout

---

***"...You will still have to do a bit of reading to understand all the concepts, but newcomers will find they are typing up their first letter in an amazingly short period of time."***

---

and so on are all catered for in an individual document setup for each file. It is possible to use different fonts, paper types, and printer modes etc. for each document, even within the same subdirectory. This is handy if you regularly use different types of letter head paper for different tasks. It will even prompt you to change the paper in your printer to conform with the intended output of the document.

## PRINTING

I mentioned earlier that LocoScript supports just about every type of printer known to man. The alphabetical listing of supported printers in the printers guide takes up over 110 pages! I have a relatively new model Star Micronics LC24-10 multi-font 24 pin printer. I

have had a devil of a job recently installing various software packages finding the correct printer emulation to fully utilise the substantial features of this printer. To my amazement there it was on page 111 of the Printers Guide complete with information on how to set the DIP switches for various modes of operation. At this point it is worth mentioning the way LocoScript interacts with some of the more modern printers. If you have a printer that is capable of producing multiple fonts, you should set up LocoScript to talk to your printer in both Download and Standard modes. In Standard mode the printer fonts are used by LocoScript when printing your document. Your printer's buffer is then used to hold text awaiting printing. This is the fastest way to print but does not allow you to use all the special international and graphics character sets of which LocoScript is capable. To use these you must operate in Download mode in which LocoScript does just that. It downloads the various characters to your printer on the run. You may find that this uses up your printer's buffer and slows printing down. It may also, (as it did in my case), give you fewer choices of fonts; but this is made up for by the staggering array of characters and effects that LocoScript can produce. It's a bit of a trade off but still it works extremely well.

## DATABASE AND MAILMERGE

The database and mail merge functions of this package are deserving of an article in their own right. Needless to say you get value for money in this area. It is based on the simple principle of a card filing system but that's where the similarity ends. It is far more flexible than the fixed record length databases of yesteryear and can be easily tailored to suit the needs of a variety of applications.

The database is more than just a simple address book as is the case with the bundled software in some other packages. The differ-



ence is in the method used to print out anything other than very basic reports. Like former versions of LocoFile and LocoMail for the PCW computers the mail merge function is used to control the printed output from the database. It will take users quite some time to become really proficient in its use, but the results are really good. Unfortunately, unless you are into writing programs or macros, or whatever else you wish to call them, you will not get anything like the full potential out of this part of the package. Again the documentation helps here. The tutorial starts you off in the right direction and the reference manual and supplied sample files are great. These will help you set up standard letters, invoices, printed lists and all sorts of other useful documents.

#### ODDS AND ENDS

This is where we cover all the little things that didn't quite fit in anywhere else in this review. There are some peculiarly LocoScriptish things in this package that you don't see in other word processors, at least not in the same format. Firstly there are Phrases and Blocks. These are used to store either permanently or temporarily standard phrases for use in your documents or (in the case of blocks) whole passages of text for transfer from one document to another. This latter feature is needed because there is no way of editing two documents simultaneously as there is in many other word processors for the IBMs.

Also lacking from this package is any form of graphics support for integrating artwork into your documents. This was formerly the realm of desktop publishing packages, but the gap between those and ordinary word processors is narrowing by the day. Another omission in my book, (given that lots of people these days have rodents attached to their systems), is any form of support for using a mouse. This is not everybody's idea of a fault, but

it seems to be the way of the future as we move to more standardised user interfaces.

#### HOW DOES IT COMPARE?

Let's look at just a few of the competing word processing packages on the market at around the same price range. I have chosen the following simply because I have some knowledge of how well or otherwise they perform. Wordstar Professional Version 6, Microsoft Word Version 5 and Ami Professional all retail for around \$500. What you pay will vary depending on how much you shop

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***'If you're looking for an easy to use word processor that mightn't have all the wiz bang features of some packages, but still does more than an honest day's work,....'***

---

around. LocoScript stacks up fairly well against Wordstar and Word in the straight editing of text department. In terms of ease of use it is probably also ahead of both these rivals. Unfortunately Ami Professional blows all of these word processors into the weeds and rivals even desktop publishing giants like Ventura Publisher. So what am I getting at? Just this. It is easy to compare different word processors on sheer number of features for the dollar and straight text manipulating power. But in the end, the choice people will make will vary according to their needs and experience in the world of computer software. There are strengths and weaknesses in all of these packages.

Perhaps my son summed things up best of all when he looked over

my shoulder while I was playing with LocoScript. "Gee Dad, that screen doesn't look as nice as others I've seen", he said referring to the drop down menu I was viewing during a spelling check. Unfortunately it obscured the offending misspelt word making it hard to judge what correction to make. As there was no way of shifting the window, I had no way of checking the context. When he later looked through the documentation in the package he remarked "You get a lot of things with this don't you? This would be good for something like a doctor's surgery or something like that". And I guess he's right. If you're looking for an easy to use word processor that mightn't have all the whiz bang features of some packages, but still does more than an honest day's work, then you could do worse than LocoScript PC.

It can produce really good looking documents on a huge variety of printers and is relatively quick and easy to learn. Given the fact that you also get a good database and mail merge capability, it makes for a very good package for the small office. Certainly in Britain where at last count there are something like 600,000 PCWs in offices around the country, the business market cannot be ignored. There will be a lot of firms climbing over one another to get their hands on this product. The lack of staff retraining alone in changing over to new equipment with the same type of word processing software will certainly guarantee sales. In the predominantly IBM dominated business market of Australia, I fear that LocoScript may not be up there with its rivals. I hope I'm proved wrong for Locomotive's sake. I personally like the package, and as I said earlier, it brought back lots of fond memories from my PCW days. For home and small business use, you would find it more than satisfactory for just about any task you could throw at it. I liked it Locomotive, you're almost there with the market leaders. 7 out of 10. ■



# Beyond 2000



*With the impending release of Amstrad's new 3000 series, Shane Kelly puts the PC3286 under close scrutiny.*

Amstrad have become one of the better known computer makers, more due to their marketing prowess than to actual innovation in their products. In fact, AMSTRAD PC's are often perceived as being less compatible than most other "no name" clones. This is not really the case, although the 1000 series did severely restrict your choice of upgrade. Things improved out of sight with the 2000 series where the majority of built-in equipment could be switched out and replaced with user defined options.

Now the 3000 series is here. And things have improved yet again with the ability to have both 5.25"

and 3.5" floppy disc drives in the same case. All the other built-in options can be disabled and users preferences can be added. The case is more in line with "accepted" design for PC's and is now built of sheet metal instead of plastic. (For specific details see the "For the technically minded" section.)

The new range includes the 3086, an XT machine; the 3286, an AT machine; and the 3386, a flagship powerhouse.

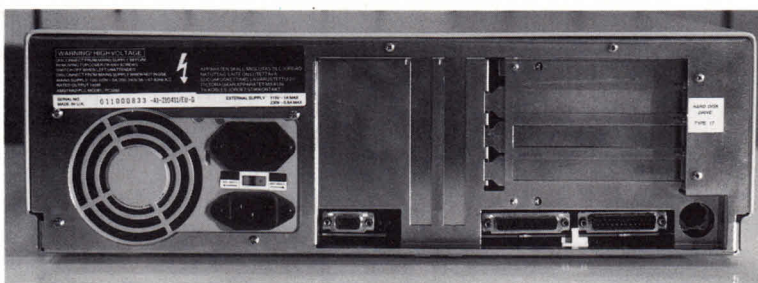
The 3086 will essentially be the 2086 with a 3000 series case and will still come with a 30 megabyte hard drive. The 3286 will be initially supplied with a 40 megabyte voice coil hard drive, as will the 3386. The 3386 is an INTEL 80386sx processor running at 20 megahertz, which is still a bit unusual as 16 megahertz is more the norm.

Prices I hear you ask? Well, the 3086 with one 3.5" floppy drive and a hard disk will sell at \$2499; the 3286 with one 3.5" floppy and a 40 meg hard drive will sell at \$3499, while the 3386 will sell at \$4499 with the same 3.5" floppy and 40 meg hard drive. All of the above have a VGA colour monitor included in that price.

## THE USERS POINT OF VIEW

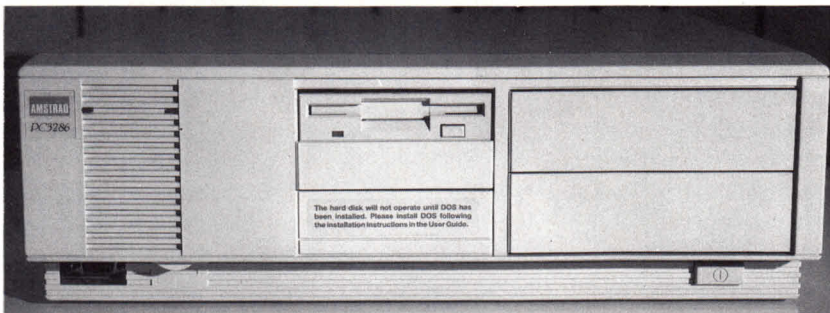
The 3286 is fast, responsive and as good as any other 286 machine on the market today. The hard disc drive is quiet and quick. The floppy disc supplied was a bit noisy, but did not throw up any errors. The keyboard was up to AMSTRAD's usual standard, although as I think they are quite good anyway this could be bias on my part. In any event a keyboard is a personal thing, so make up your own mind. The unit and keyboard would not fit comfortably on my student desk, but was fine on a computer desk. When I put it on the student desk I couldn't reach the power button or mouse port as the keyboard was butted hard against the system unit due to the desk being only 57cm deep. The computer desk on the other hand was 67cm deep and that made all the difference.

Another thing I liked was the lack of electrical wiring running from behind the computer to the wall socket. With a "power through" socket provided for the monitor we are back to one wall socket in use for the minimum



Above: Back view of the 3286.

Right: Front view of the 3286.





configuration machine. Speaking of cords, the keyboard cord was long enough to allow a fair distance between the system unit and keyboard without straining the connector on the rear of the machine and should be long enough to accommodate any foreseeable setup of keyboard and system unit.

I am writing this part of the review on the 3286 using Windows 3.0 write program and I am also being beaten at reversi and solitaire at the same time. The switching between windows and tasks is quite quick and I can see no drawbacks in terms of performance with this machine as configured.

There is one thing I think the user will soon tire of and that is the constant noise of the fan. It is loud and obtrusive and is unfortunately up to AMSTRAD's previous standard of fans - i.e. noisy!

A comparison with AMSTRAD's earlier 286 machine, the 2286, will be inevitable. The 3286 is faster, sturdier and smaller. There is no need for an outboard 5.25" drive as two 5.25" drives can fit in the case. No need to worry that the weight of the monitor is too much for the box, as this case is made of metal. The power switch is not awkwardly placed at the side of the box and is a decent size for large fingers. There is still no reset button, but since software never has bugs (according to its authors) you will never need a reset switch.....right?

Conclusions for users. If you have just bought a 2286, accept that it was what you wanted at the time - don't kick yourself that you should have waited because that game is unwinnable - there is always a new whatever around the corner. If you are still looking, then don't pass over the 3286, provided that you are slightly deaf or fan noise doesn't worry you.

#### FOR THE TECHNICALLY MINDED

The 3286 is a 16Mhz 80286 machine with 5 expansion slots of the ISA, or Industry Standard

Architecture type. It is housed in an all-metal case and has six screws which undo to enable access to the inside. The case slides forward (but not too far as there are wires running from the motherboard to the power and HDD lights) and then tilts up. On inspection you will find three slots on an extension card that is perpendicular to the mother board. This card is very rigidly fixed to the metal frame of the computer and



the disc drive cage, and supplies two 16 bit slots and one 8 bit slot with the boards stacked in layers like the PS/2 model 30. Between this daughterboard and the power supply in the back right hand corner are 2 more expansion slots; 1 x 16 bit and 1 x 8 bit. As these expansion slots are right behind the disc drive cage they can only take short cards and the 8 bit slot is quite close to where the main power connectors for the motherboard are situated, so you had better pick a skinny card for this slot so as not to foul the power leads. Connectors issuing from the motherboard to the rear of the system unit are a serial port, parallel port, keyboard port and VGA 15 pin connector. There are the usual cutouts for access to the connectors on the expansion cards and of course the power lead socket and one for the monitor as

well. The power supply is configurable for 110-120 volts as well as 220-240 volts, so perhaps an assault on the American market as well as the European is planned for these machines?

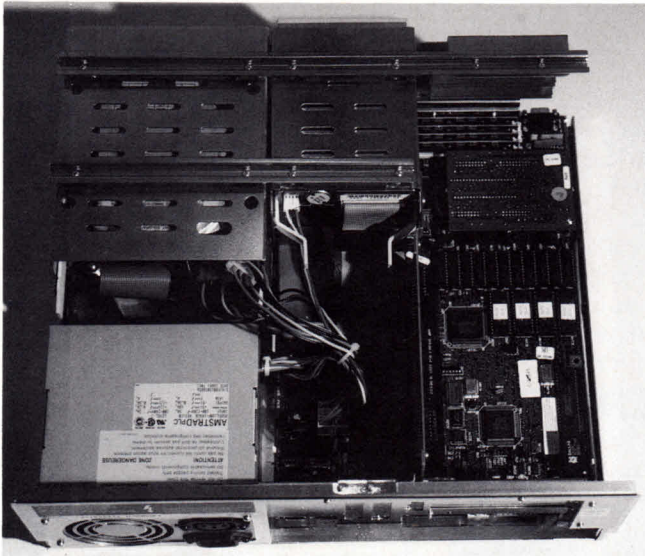
The review machine was fitted with a Miniscribe 8051A 40 megabyte hard disc drive mounted in the 5.25" bay and 1 -1.44 megabyte floppy mounted in the 3.5" drive bay. Spare power connectors were available for two extra floppies

and the data cable for the drives had four connectors; two for 3.5" drives (one in use) and two for 5.25" drives. The floppy disc controller is built into the motherboard and is capable of handling both high and low density drives, (but I don't know if it could do both at the same time). The hard drive as supplied was fast and quiet and gave good performance throughout the review. The hard disc controller is also on the motherboard. It is one of the newer IDE or AT type interfaces and performed flawlessly during my tests. Since I had the machine for a while and also had a spare 360k 5.25"

floppy drive lying around, I decided to fit it and check its performance. This was when things started to go wrong. I couldn't fit the drive without a proprietary mounting kit. It didn't matter what configuration I wanted, I wasn't going to get it without that drive fitting kit. The hard drive, (which was a 3.5" form factor drive), would be better suited in the spare 3.5" drive bay. I took it from the 5.25" bay and took off the 5.25" mounting kit. I soon found out why it was mounted where it was - with the 3.5" floppy in place, it wouldn't fit in the hole! I could take the floppy out and it would fit, but what was the use of the machine without a floppy?

Disappointing that AMSTRAD should use a proprietary mounting scheme for the drives as this constricts your choice of configuration. The other constraint here is the length of the floppy cable - if





you have a floppy in the top 3.5" bay and you want a floppy in the bottom 5.25" bay you are going to have to find a way of extending the data cable, as I could not work out how it could be done otherwise. The AMSTRAD mounting system is quite good and it enables easy access to the drives simply by removing the data and power cables and then sliding the drive forward, but it is not the accepted way of mounting disc drives that you would find in any clone, so it is impossible for the person (like me) who has a spare disc drive lying around to mount it. It requires an AMSTRAD mounting kit. The good news is that sources say that these will be supplied with the unit.

## 3286 STATISTICS

Processor	80286
Speed	16Mhz
Memory	1 Megabyte
Video	VGA Colour (Paradise - size =256k)
Keyboard	Extended 102 key
Hard Drive	40 megabyte
Av. Access Time	25 ms
File Transfer	Approx. 500k per second (16k file)
Mouse	AMSTRAD Proprietary Mouse Interface
Expansion	3 x 16 bit (1 short card) 2 x 8 bit (1 short card)
Ports	1 serial (25 pin) 1 parallel

The graphics card is also on the mother board and uses a Paradise chipset and 256k of RAM. The RAM is not expandable to 512k, but at least the machine comes with dip switches to enable a multi-frequency monitor and so access the higher resolution modes that this VGA card is capable of producing. The card performed well in all modes except 640 x 480 x 256, which did cause interference on screen - it is the same with the 2286 and 2386, so I

guess it is the same VGA card. The VGA display is a fixed frequency type of either 12" or 14"; the 14" is standard.

There is provision for a maths co-processor, but a casual glance at the motherboard would not reveal its socket. This is because the socket resides on a curious small daughterboard that has four sockets sprouting up from the motherboard, and underneath this daughterboard facing the motherboard is an empty co-processor socket and the 80286 processor. There is a fifth socket sprouting from the motherboard and by my reading of the manual the 3386 machine uses this socket on its daughterboard - maybe an upgrade path will be provided?

Supplied with the machine was 1 megabyte of 100 nanosecond RAM configured as 4 x 256 SIMMS. On the motherboard was 64k of 35 nanosecond RAM which is used as a cache for main memory accesses. This is the same arrangement as the 2386, which announces the cache on power up. The 3286 does not, so perhaps it is not supplied as standard. It was certainly working according to the utility to turn it off or on.

## CONCLUSIONS FOR THE ABOVE.

If you are looking for the machine that will fit all the cards ever made, look again. The act of

fitting options to the motherboard has several advantages from the manufacturers point of view - it can mean bulk buying of components therefore lower unit cost and one design can accommodate a number of different configurations as is the case here. Those benefits are passed on to the user, but at the cost of robbing said user of the choice of add-ons that he/she may want. That is what it comes down to - choice. If you want, you can buy a more expensive machine with just an intelligent backplane and configure it as you wish. You will pay more, but it's your choice.


On the whole, AMSTRAD's choices aren't so bad but I would have liked to see easy upgrade to the VGA card and a different floppy controller. Technically speaking, the choices are good enough.

## OVERALL CONCLUSION

Aw gee.....well....I....um..ah... Let me put it this way; as a dealer I applaud the look of the machine, the provision of both size floppies in the case and the ease of access. As a user I was impressed by it's speed and performance, but not by its high decibel level, and as a guy who likes to fit weird and wonderful add-ons and experiment with hardware, I wasn't impressed with having my choices limited. At least access to the dip switches has improved and there is more room to work with than on the 2000 series.

It may well be that AMSTRAD are too late onto the market with this range of machines to stem the tide of the low cost no frills clone. It may well be that the corporate market is not looking for another 386sz or 286 machine. It may well be that the small business market is going Windows 3.0. It may well be that the domestic market is fed up with buying a machine only to have it depreciate at a rate of knots that any nuclear sub would be proud to claim. But AMSTRAD will be fighting back with keen prices and advertising blitzes to establish the 3000 range as the premier range of home/small business machines; that is the rightful place of this range of computers. ■





# NEW PC-SOFT 6, 7, 8 & 9

**6** *FORD DRIVING SIMULATOR 2* - the latest edition of an excellent driving simulator from Ford of America. Offers a choice of several different events: Test Track, Slalom, Drag Strip & Grand Prix. Good 3D representation. All ages.

**7** *WP for KIDS + FUNNELS AND BUCKETS* - contains a simple word processing program for young children (with large on-screen text) plus Funnels & Buckets: a game to improve arithmetic. Suitable for Age 7 and up.

**8** *JUNIOR WORD GAMES* - a series of programs involving exercises with Synonyms, Sentences, Opposites, Plurals, Verbs, Jobs, Comparisons etc. It also includes a popular Wordfind game. Suitable for Age 8 and up.

**9** *EDUCATIONAL GAMES FOR KIDS 1* - contains a series of colourful and attractive games to teach the alphabet on the keyboard, simple maths and shapes. Plus Hangman with facilities to change word file and picture of the 'victim'. Age 4 to 8.

Each of the above are available in either 5.25" or 3.5" format and are supplied with a Document File reader plus a utility for the software to be run on most (no guarantees though!) mono screens, with the exception of the Ford Simulator.

**Prices: 5.25" format \$10.00 each - 3.5" format \$12.50 each**

**All PC-SOFTs  
now cheaper  
by \$2.50**



# Art For Art's Sake



*Chris Collins draws on the Public Domain and brings you news of art programs and other Shareware products.*

**W**elcome once again to Compatibles Corner. It is October 1990, and only 3 months to Christmas. Have any of you started looking at presents yet? I know that I have. Next month we might look at some gifts that you can buy that special friend with a computer, or something that you might like to buy for yourself. Until next month, we will leave this one in abeyance.

This month has seen the release of Galaxy v3.00 in the US, but it appears that this version is very buggy. I have managed to obtain an evaluation copy of the program, which now occupies two diskettes, and I must admit that I am very impressed with what I have seen so far. The new version has a lot of new features, including the Microlytics Spelling Checker and Thesaurus. For those of you that don't recognise the name, Microlytics are the same people who supply the spelling checker and thesaurus for Wordstar, so Galaxy is in good company. The spelling checker boasts 100,000 words, and the thesaurus 220,000. That is a lot of words in anyone's language. Other features include the use of expanded memory, full SAA compliance so that Galaxy now looks very similar to Microsoft Works, style sheets, and better mouse support than ever before. If anyone wishes to get their hands on a copy of this new program, simply write and include a cheque or money order for \$15.00 and I

will forward it to you. For those that request it, the upgrade to v3.1 (the version without bugs) will cost only \$2.00 for postage, so you might like to get in early for a look.

This month we have a couple more EGA demonstrations for you to look at. These take the format of some EGA demonstration programs, and a big daddy of a slide show. But more of that later.

#### **EGA DEMO DISC 3**

This is the third of our series of EGA demonstration diskettes. It contains the following programs for you to have a look at: -

**EGADEMO1:** This is a collection of PCX files that you may have seen around the place and includes a baboon, bowl of fruit and approximately 5 other screens. It is a continuously running demo begun by typing in DEMO.BAT, It really needs a hard disc, because although it could be run from a floppy it would waste too much time loading.

**EGADEMO2:** This is a simple demo containing the SLICE file. It shows off some of the capabilities of a specific EGA card that I won't mention. It's quite good, and is another self running demo.

**ROLEX:** ROLEX is a high resolution picture of a wrist watch. I think that it's a Rolex, but can't be sure. The best thing about it is that the watch works like a real watch. I like this one, but don't leave it on too long, as it can cause phosphor burn on the screen.

**EGA Demo Disc 5 :-** This is the big daddy of demonstrations for the EGA. It's a collection of slides, all put together with RIX EGA Paint, and set-up to provide you with examples of animation, colour cycling and much more. This one takes up four 360k diskettes all by itself, and you will need approximately 3.5mb of hard disc space to be able to put it all back together.'

What I have had to do is as follows. I compressed all the files using PKZIP, then used a program called CUT to cut this ZIP file into smaller pieces that I have been able to fit onto one diskette. Each of these pieces is approximately 345k large. I have created a batch file that will copy all of the component parts from the floppies to a directory on your hard disc, then join them all back together to form the ZIP file. From here the batch file will delete all of the component parts, and unzip the file to make it usable. Then you simply run the DEMO.BAT file, and you can see one of the best slide shows available for the EGA.

Now for all you VGA owners, do not panic. I am currently trying to get together some demonstrations along the same lines for you to view, so please be patient. Hopefully, they will be available for Christmas.

#### **ANSI DRAWING PROGRAMS**

This month I want to have a look at ANSI drawing programs. We have a choice of three different



ones, so I will basically run through what they are and how they work.

ANSI drawing programs are used to produce ANSI colour screens and animated ANSI colour screens. They do this by allowing you to use the full range of ANSI characters that are available, in different colours, to produce shapes and artwork. The full ANSI character set includes all of those single line and double line characters that BBS fans will know so well. For those of you not into BBSing, think back to the last installation program that you used for a piece of software. Chances are that the screens had been drawn with one of these programs.

ANSI screens can simply be shown on the screen by using the TYPE command. For example "TYPE PIRATE.ANS" would show you on the screen the picture contained in the file PIRATE.ANS. I have included a collection of ANSI screens with each of the programs, so that you may be able to see what can be done.

Also available with these types of programs is the ability to do a certain amount of animation with the screens. Admittedly, the animation is minimal, but it is animation none the less. A couple of the sample screens contain animation sequences. Most of the demonstration screens are BBS title screens, so please take account of the fact that their content may be a bit limiting. None of it is in any way dirty, but the topics that are covered can be bizarre.

*Anspaint*:- Anspaint to me seems to be the least developed of the three programs. Written by a gentleman named Drew Olbrich from Poughkeepsie, it fills only one diskette and requires a donation fee of US\$10.00. The program comes with no documentation, but includes 14 screens of help. It is limited in the way it can save your files, offering only ASCII, ANSI, BIN and BSAVE. The program operates in a similar fashion to the other two, but appears to be only a beginners program in that it is not as full featured. This is not to say

that it is a bad program, but I feel that it is, in a sense, unfinished. It is currently released as v2.1.

*AoLA*:- AoLA (Ansi of Los Angeles) is a new program currently at release 1.06. Written by Cavan International, the program has a registration fee of US\$22.50. This cost does include postage and handling. AoLA claims to be the latest and greatest in ANSI screen editing programs. AoLA is a full featured program that will supply any purchaser with a program that is easy to use, powerful and full featured. The documentation supplied in the AoLA106.DOC file runs out to 22 pages, and is very comprehensive. At times, I have found that the quality of the documentation is usually a very good indication of the overall quality of the program. In this instance, that is very true. The documentation is quite specific in explaining to you what you must do to your system to get AoLA to work, and then goes quite deeply into how to set-up the program. AoLA has a built in ANSI emulation so ANSI.SYS or your ANSI driver does not need to be loaded. Help in this program is also available, and can be called up with ALT-H. The command set is well structured, with a lot of the commands being applied in mnemonic pairs, eg ALT-L is Load a file, ALT-S is save a file, etc. AoLA has a wonderful feature called BigLetter mode. This, very simply, allows you to create large letters using any character in the ASCII set. This is much easier than any other program, and is one of AoLA's best features. It is as limited as Anspaint in its file saving support. I'd say this is the worst part of the program. Written in Turbo Pascal, it has some test .PAS files to show you how to use the screens that you produce in TP programs. All in all, I like AoLA, but the lack of screen save mode is my only real complaint.

*The Draw!* :- Anybody that measures the quality of a program by the quality of its documentation could not fail to be impressed by TheDraw!. The Draw!'s documentation runs to 90 pages, and

all of it is clear and well written. TheDraw! is written by a company called Thesoft Programming Services, and has registration fees ranging from US\$5.00 to US\$20.00, depending on what you require. This makes it much easier to get registrations. Currently up to v3.30, TheDraw! is my favourite ANSI screen editor. It supports a mouse, although I find that a mouse is only useful in certain operations. In others, it is actually quicker to use the keyboard. TheDraw! also has one other feature not implemented in either Anspaint or AoLA. ANIMATION! Yes, you can get actual animation into the ANSI screens that you create. It isn't full blown animation like you see in cartoons, but it is able to move characters around the screen and create the impression of movement. TheDraw! saves files in any of 10 different formats, including TheDraw! format, ANSI, ASCII, BIN, BSAVE, COM files, ASSEMBLER, TURBO PASCAL, C, and OBJECT. This makes it very easy for any programmer to incorporate good screen design in their programs. TheDraw! is the only program of the three that has a SET-UP program to allow you to change some of the default settings. TheDraw! is my selection of ANSI screen drawing package, but by all means get all three and decide for yourself. This is what makes shareware so great, you can try before you buy. But, as always, don't forget to register if you continue to use the program after the evaluation period.

As always, if you require any diskettes talked about this month, or previously, send your cheque or money order for \$7.50 per 360k diskette or \$15.00 per 720k diskette to the following address;

*Macrodisk,  
Unit 2, 47 Vernon Street  
South Kingsville Vic 3015*

Next month I hope to be able to offer VGA users a couple of demonstration diskettes as well as some games for VGA. I am currently testing out a couple of good quality ones. Until next month, TTFN! ■



# CLASSIES

**FOR SALE**

**Start Computing with the Amstrad CPC6128** - by Judith Thamm.  
A Basic course for beginners, full explanations. 112x44 photocopied pages coil bound with over 50 programs. Ideal for computer clubs. Book \$20.00, 3" disc \$10.00, P&P \$2.00

**Ribbons re-inked** \$4.50 plus return postage. Judith Thamm, Box 269, Two Wells SA 5501 (Ph 085 20 2377)

**Start Computing on a PC** - by Judith Thamm. Learn quickly and easily at home. Hints, tips and traps for DOS and an intro to BASIC.

Book plus 5.25" disc - \$35.  
Book plus 3.5" disc - \$38.

Cheque, Money Order, Bankcard, Mastercard accepted.  
Ring Judith Thamm, (085) 20 2377.  
Box 269, Two Wells SA 5501



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**Beginners' Guide to the IBM PC:**  
The book that gives new users a flying start and saves money. \$12  
Post to Bruce Collins, 234 Tor Street, Toowoomba, Queensland 4350  
(Ph 076 344828)

**USER GROUPS**

**Sydney Amstrad User Club** for CPC only, meets first Saturday of the month in Inner Suburbs. For details phone (02) 560 9487 or (02) 661 7573. 6-9pm only.

**SERVICE**

**Personalised Stationery** - an ideal gift for any occasion. 100 sheets of high quality paper with address and phone number printed plus 50 matching envelopes. Ring (03) 803 9661 for details.

**CONTRIBUTIONS**  
We accept unsolicited articles or program contributions from readers with a view to possible publication, but in the case of programs we must insist that the coding is submitted on either tape or disc. We just do not have the time to key them all in. The tape or disc will be returned if originally accompanied with a stamped and return addressed padded bag.

**DISPLAY ADVERTISING DEADLINES**

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Please refer all display advertising enquiries or bookings to DERRICK LEWIS & ASSOCIATES on (03) 51 9984.  
*Classified ads should be phoned or sent directly to The Amstrad User.*

NOTE: Classifieds are reserved for readers' use only. Commercial companies or traders are excluded.

**Classified Ads Order Form**

This section of the magazine offers you the chance to speak directly to the huge waiting world of Amstrad owners - or would-be owners.

You can place an ad of up to 30 words for just \$7.50. So you could use it to sell a printer, launch a user group or publicize a piece of software you have written.

One thing you can't advertise is the sale or swap of software you've purchased. Such ads can be misused by software pirates.

Just fill in the application form and send it to us together with payment. We'll then place the ad in the next available issue (published 3 to 7 weeks after we receive your order.)

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Credit Card Expiry date .....

Name .....  
Address .....

Telephone .....


Write your advertisement here, one word per box. If you want your phone number printed, it must be included in one of the boxes.



# Amstrad PCs

The following collection of disks contain compilations of public domain programs suitable for Amstrad PCs (and possibly other IBM clones). With the exception of PC-SOFT #1, all items are available on both 5.25" or 3.5" disk format. PC-SOFT#1 requires Basic2 (supplied with Amstrad 1512 or 1640s), whilst all others require MS-DOS version 2.1 or above.

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

## PC-SOFT #1

19 Basic2 utilities or games on one 5.25" disk, with:

### 3DGRID.BAS

Add an extra dimension to your maths formulae. You can enter your own functions or watch the 9 demonstrations plot.

### 3D-VIEW.BAS

This Basic2 program takes a series of x, y and z co-ordinates and constructs a picture from them. The three dimensional image can then be manipulated for a view at any angle, size and rotation.

### ANAGRAM.BAS

Presents a jumbled word from a store of around 600 for you to unscramble as quickly as possible

### ANGLES.BAS

This program provides both instruction and testing of the basics of angles. Acute, right, obtuse and reflex angles are drawn and described, then followed by a tests where angles have to be named or where you try to match a given angle by positioning a point with the mouse.

### BASIC2.APP

Along with BASIC2.RSC the files provide an upgrade to version 1.23 with three extra commands - Alert, Inkey and Selector. You can use this version only if you have a licence to do so. If you have bought an Amstrad PC1512 or 1640 then you already have the licence, and this copy is supplied on the same terms as the original.

### BAS-INIT.BAT

This batch file prepares a single floppy with enough of MS-DOS, GEM and BASIC2 to run the language from one disk.

### BRAHMA.BAS

A version of the old favourite 'Towers of Hanoi' in which discs must be transferred from one pole to another without ever placing a disc on top of a smaller one.

### BRAHMA2.BAS

The same as BRAHMA.BAS but with a recursive solution and demonstration.

### BUSES.BAS

An educational program teaching number recognition and counting to pre-school children.

### ENIGMA.BAS

A game which involves moving and interchanging two blocks of shaped tiles, with the object of transposing two blocks from opposite corners of the playing area.

### EUROQUIZ.BAS

A graphic, multiple-choice quiz based around the countries of Europe and your knowledge of its major cities.

### MANDEL.BAS

Draws extremely attractive multi-coloured Mandelbrot sets of your choice. Be warned - it takes a long time!

### MATHS.BAS

This program offers you five types of test, covering addition, multiplication, subtraction and division and a random mixture of all four.

### OXO.BAS

The thinking machine's noughts and crosses, and an example of one of the programs which can be found in Peter MacBride's book "Advanced Basic2 programs on the Amstrad PC".

### ROBPOST.BAS

A compulsive, simple yet frustrating sliding tile game with a difference - you have to create a pathway for a robot postman.

### STYLISER.BAS

Downloads any of three fonts into an Epson-compatible printer, and they may be used with other programs (including non-GEM ones) to add sparkle to your correspondence.

### SUNDIAL.BAS

A program for generating sundials on your PC. It takes into consideration your latitude and then calculates the appropriate hour angles and the 'style height'.

### TENPIN.BAS

A ten-pin bowling game in which your PC keeps score and resets the pins after each go.

### TURTLE.BAS

Based loosely on 'turtle' drawing found in Logo programs, this program allows you to draw and colour squares, circles, pies and ellipses.

## PC-SOFT #2

Eight games on one 5.25" or 3.5" disk with:

### 3DOXO.EXE

A three dimensional version of Noughts and Crosses played on four planes against your computer. Each plane, one above the other, contains a grid of sixteen squares. To win, you must get four of your counters in a row - vertically, horizontally or diagonally. It's not as easy as it sounds and the computer plays a strong game.

### BOUNCY.COM

A giant nuclear-power station that orbits the planet Abraxii has gone terminal. You have been raced to the scene, encased in your Ultra-Ball, to restabilise the reactor by colliding with the uranium cooling rods and driving them home one at a time. Your score 10 points for each rod successfully replaced. The only problem with the Ultra-Ball is that it is unsteerable and always travels in a straight line, horizontally or vertically. What you must do is activate the deflector shields that are built into the reactor so that the ball will bounce off them and hit the cooling rods. Within the reactor are anti-matter death stars which will destroy you on contact and inter-spatial gateways which will take you from one side to the other.

### DRAGONFLY.EXE

A full colour action arcade game originally designed for the PC1512, but also works on EGA if you don't mind a messy title screen. The games centres on a tract of water patrolled by a helicopter. Your mission is to blast enemy hydrofoils out of the water before they blast you. The helicopter can be controlled with the numeric keypad (or a nine-pin joystick fitted into the keyboard of a PC1512/1640).

### JOIN4.COM

This strategy game is based on the 'board' game Connect4 and involves two players dropping counters alternately onto one of the seven to try and produce a line of four in any direction - but be warned, it plays a mean game! It is self-contained and displays its own instructions. The game can be played against your computer, against another player with the computer keeping score, or the computer can play itself.

### MMEXE

This is the infamous Mastermind game of logic but with some additional features. You can play against a clock and have to keep a watchful eye on an ever dropping thermometer style scale on the right of the display. There's also a digital clock to remind you how long you have been playing. There are four levels - Amateur, Average,

Expert or Master and the range of numbers for any sequence can vary from six to ten using any digit between 0 and 9. It also features sound effects and you can alter your guess as many times as you like within a time limit. You get a progress report after every ten moves.

### MOLECULE.EXE

A jazzy version of Black Box in which you fire beams into a lattice of squares and determine where the molecules are hidden by analysing the reflections and absorptions. It's a bit like a 3D version of Mastermind but with more information provided.

A ray is absorbed by a direct hit and reflects from any of the corners of a molecule. You mark where you think each molecule is and check your guesses at the end of the game. There is a variable time limit to add tension to the game with sound, level of play and number of molecules also optional. There's also a demonstration mode to show you how it all works.

### RACE.COM

Race simulates a six-race meeting at any of four courses. Each race is of a different length and you have to study the form to select the horse most likely to win. You start off with £50 (pretend they are dollars) and can bet up to £99 for a win or place to a maximum of four place bets in any meeting. The race is shown in colour (you must at least have CGA) as the horses come to the last fence, and although form plays a major part, your horse can still fall at the last fence.

### REVERSI.COM

A very good version of Othello (for CGA graphics screens) with menu options offering instructions, programming details and a high score table. The object of the game is to have more squares covered with counters of your own colour than your opponent's when the board is full. You must place each counter to trap at least one counter of the opposite colour between your new one and another of yours already on the board. All trapped counters are then flipped over to your colour.

## PC-SOFT #3

Twenty-four utilities on one 5.25" or 3.5" disk with:

### BEEP.COM

If you compile large Cobol programs or simply want to irritate your neighbours, this is just the utility for you. It produces an attention-seeking alarm and tells you to press 'any key to continue'.

### CAL.COM

A perpetual calendar which will display any month from the year 1753 to 3000 - instantly.

### CALENDAR.COM

Lets you display and print a calendar for any year between 1900 and 2099.

### CGA2.COM

Offers something like a 60% success rate in allowing owners of monochrome monitors to run programs that use CGA graphics in different shades of grey.

### CHOICE.COM

A short command file providing a handy way of using multiple-choice menus in your batch files.

### CLEANUP.COM

If you use WordStar (not WS1512) or NewWord you may know they do funny things to the last letter in each word making them hard to read or load into another file. Run them through CLEANUP and most of your troubles are over.

### CLICK.COM

A simple program to make your PC 'click' every time you press a key on the keyboard.

### CLR.COM

Simply clears the screen to a specified colour.

### CURSOR.COM

A utility, most useful for PPC owners, which changes the shape of the cursor to a block or turns it off all together.

### DEL.BAT

A batch file which deletes all the files in the current directory which don't conform to a series of specified wildcards.

### DOSEDIT.COM

A very handy routine to keep on your MS-DOS work disc. It takes a lot of the pain out of MS-DOS when you are trying to copy a lot of files or work with hierarchical directories on a hard disc. It lets you edit the command line.

### DOSMAP.EXE

This program provides complete information about the contents of your PC's memory - which programs are in there, how much of memory they occupy and what interrupts they have taken over.



## DRIVE.COM

Mainly for use in batch files, DRIVE checks whether a specified drive is ready for access.

## TIMER.EXE

Can be used to check or measure the time taken to run another program or an MS-DOS command.

## FILEDATA.COM

Reads the system clock of your PC and produces a short text file (with the filename DATE) containing the full date in the form 'Monday 25th December'.

## FSORT.BAT

This useful batch file takes two ASCII files, adds the second to the end of the first and sorts the result.

## FULLDIR.EXE

This displays the directory tree structure of any drive.

## GDELE.XE

A global deletion program (so be careful!). It deletes all specified files or those with wildcards.

## HDFLASH.COM

A useful utility for owners of Hard Disk Cards who can't see when the disk is being accessed. It puts a smiley face in the corner of the screen which is solid when the drive is reading and hollow when it's writing.

## KD.COM

A dangerous but useful utility which kills a directory simultaneously removing all files within it.

## LOSTFILE.EXE

This searches out files you know are somewhere on your disc.

## LYNE.EXE

A great utility which lets you type a short letter or document line by line and saves having to go through a word processor. It sends your text to the printer at the end of each line. It also contains built-in codes for all the normal Epson printer effects.

## MEDIT.COM

A neat and fast memory editor which can show you bytes of memory in real time.

## NVRSAVE.COM

Enables you to save/store the contents of your NVR area to disk before removing and replacing your batteries. Once the new batteries are in place you can use NVRREST.COM to restore the non-volatile RAM (NVR) area of your Amstrad PC.

## PC-SOFT #4

Six games on one 5.25" or 3.5" disk with:

### CRIB6.EXE

This is a full version of the popular card game for two players complete with cribbage board and score card. You can use the keyboard or the mouse to play the cards by simply pointing at them. For the uninitiated, each player takes a turn in playing a card to score points as they are laid. When all the cards have been played, they are scored individually and added to each player's accumulating score on the pegboard. The first player to 121 is the winner. There is a cheat mode whereby you can use the reveal option to show you your opponents cards.

### GALACTIX.COM

Your crippled spacecraft, the USS Galactix, has crash landed on a planet after colliding with a meteorite. You were trying to get back to Earth at the time and unless you find five specific items to repair your ship, you are doomed. Naturally the planet is hostile being patrolled by robots and guards. You can 'get' objects, 'use', 'drop' or 'examine' them by using icons displayed on the right of the screen. Energy will be lost quickly if you come into contact with the inhabitants. Food and drink will replace lost energy. There are many puzzles and they must be completed in order to complete the game.

### JASON.EXE

Trapped on an alien planet and surrounded by mutated plants and animals, you have to guide Jason around numerous obstacles to gather up the heart shaped crystals. Part of the screen gives way

under his feet if he dawdles, so planning is essential. Four lives are provided and you lose one if you touch a flower or a hollow head.

### RIMTRIX.COM

A real brain teaser, RIMTRIX involves a series of slideable tiles each bearing a pattern of tracks. Coloured balls are collected from the left of the screen and directed to their relevant coloured cups on the right of the screen by moving the tiles and creating a path for the ball. If the ball falls into an area without a tile, the ball is lost. Tiles can only be moved if in a position to be moved (ie. next to a black space) and can be moved left, right, up or down and even rotated. Keys can be redefined if required, but the game defaults are the arrow keys and the space bar to rotate. You cannot rotate a tile with a ball in it.

### SNAKE.COM

There are lots of 'Snake-style' games around, but this one is different. The aim is to gobble up all the yellow apples, which are replaced elsewhere on the screen with red apples. Eat the red apples and they are replaced with poisonous mushrooms which must not be touched or you're dead. They can, however, be destroyed by spitting venom at them. Steering is different in that the snake will always turn left or right in relation to the direction in which it is travelling. There are many levels.

### WEASEL.COM

A demonstration of the power of natural selection with a given alphabetical phrase. The program takes a completely random set of letters and with each generation uses a pre-set probability to decide whether a given letter will mutate to a random one. If this is the case, and the new letter is in the target phrase, it is deemed to more closely suit its environment.

### PEEK.COM

If you need to search through a file containing readable sections of text, this small utility will do the job for you.

### POINTER.ACC

A GEM accessory which displays the pixel co-ordinates of the pointer. It is called from the application name menu by clicking on the 'Pointer-Pos' option.

### POPTIME.EXE

A compact (only 1k) resident clock display program which not only pops up but also pops back on its own accord. It is loaded into RAM by typing POPTIME.

### PRCODES.COM

This utility allows you to send any code through the serial or parallel port of your PC to your printer. Most of the codes are escape characters (beginning with the ASCII character 27). Other can be found in your printer manual. The codes are sent in decimal (1 to 255) or, for some, using the relevant keyboard character.

### PRMODE.COM

A very friendly printer mode selector allowing you to select special effects on your printer (like bold, italic and underline) outside an application program (eg. when you use COPY filename.PRN:). It can be used in a batch file or from the A> prompt.

### PRINTC.COM

Another utility for getting codes to your printer which can be sent in hexadecimal or as the ASCII character.

### PSTASH.COM

A useful utility for redirecting any output sent to the parallel printer ports to a named disk file.

### RENDIR.COM

Here's a utility which enables you to easily rename a sub-directory. It's particularly useful if you have just created a sub-directory and copied a heap of files into it then decide you have the wrong name.

### SCRDM.PEXE

This is a memory resident screen dump utility. It saves a text screen to a named file using the [PrtSc] key from your choice of application.

### SEE.EXE

A utility for spotting ASCII strings in machine code files and then

display them on the screen.

### SET UTILITIES

Five useful utilities to set up an Epson printer from the A> prompt. They can also be included in your AUTOEXEC. BAT file for an automatic set up.

#### SET10.COM

- sets PICA type with ten characters per inch
- sets ELITE type with twelve characters per inch
- sets ELITE type and a 12 character margin
- cancels any SET commands and resets the printer
- sets pound and hash signs so that they print as displayed on the screen.

#### SET12.COM

#### SET12M12.COM

#### SETNORM.COM

#### SETPOUND.COM

### SGR.COM

A utility for setting particular screen attributes. You can change colours, bold characters, reverse video etc.

### SIZE.EXE

A fast utility which counts the number of characters, words, lines and pages of a named text file or files.

### TSTDATE.COM

This utility, when incorporated in a batch file, provides a simple 'on date goto' function and a 'day of the week' function, a useful feature for automatic backups.

### TIMEFIX.COM

A bug-fix exclusively for PC1512 owners who have problems when their internal clock gets to midnight. Apparently (in some cases) the clock continues to 31.00 instead of changing to 00.00 then hangs the machine.

### TIMEPARK.COM

A utility for nervous hard disk users worried about disk head crashes. It 'parks' the heads after a pre-determined period of disk inactivity. They are 'un-parked' the moment an access is necessary.

### TV.COM

A text view program with many features to display text files. You can scroll through a file in either direction at a line a time, move back or forwards a page or straight to the start or end of a file. Unreadable symbols in Wordstar files can be converted to alphabetic form. Strings can be searched for with moves to the first or subsequent occurrences. TV also comes with an index facility for up to 16 separate text files accessed through an index screen.

### WORDS.COM

A useful word counter which will give you a pretty accurate word count for any ASCII text file.

### WYH.EXE

This utility looks at the system parameters and reports on the screen. It shows the number of floppy drives, whether or not a games card or maths co-processor are fitted, the number of parallel and serial ports, the size of RAM available and the number of hard disk drives on board.

# NEW

## PC-SOFT #6

### FORD DRIVING SIMULATOR: version 2

The latest edition of an excellent driving simulator from Ford of America. Offers a choice of several different events: Test Track, Slalom, Drag Strip and Grand Prix. Good 3D representation. All ages. **Not suitable for mono screens.**

## PC-SOFT #7

### FUNNELS & BUCKETS and WP for KIDS

Contains a simple word processing program for young children (with large on-screen text) plus Funnels and Buckets: a program to improve arithmetic. Suitable for Ages 8 and up.



## PC-SOFT #8

## JUNIOR WORD GAMES

A series of programs involving exercises with Synonyms, Sentences, Opposites, Plurals, Verbs, Jobs, Comparisons etc. It also includes a popular Wordfind game. Suitable for Ages 8 and up.

## PC-SOFT #9

## EDUCATIONAL GAMES FOR KIDS - 1

Contains a series of colourful and attractive games to teach the alphabet on the keyboard, simple maths and shapes. Plus Hangman with facilities to change word file and picture of the 'victim'. Age 4 to 8

## HOW TO ORDER YOUR DISCS

Before placing your order, please make sure you have selected the correct item for your computer.

All software for PCs or compatibles have a reference PC-SOFT followed by a number.

Software for CPCs (found on this page) have a reference starting with #4 (for CPC464s with a disk drive and CP/M 2.2) or #6 (for CPC6128 running CP/M Plus).

Software for PCWs have a reference starting with #8. These discs can be converted to run on a PCW9512.

You may either order over the phone quoting your credit card, or by post enclosing a cheque, money order or quoting your credit card number and expiry date.

The cost of each disk is as follows:

PC-SOFT 5.25" disks	10.00
PC-SOFT 3.5" disks	12.50
CPC 3" disks	17.50
PCW 3" disks	17.50

(Please add relevant postage as shown on Pages 56 to 64)

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## PCW GRAPHICS (PCW only)

Simple user-designed graphics drawing program. Enables you to create, save, edit and print pictures on your PCW. Plot lines, points, boxes, four fill patterns, easy to use and wholly interactive • *PCW Screen Font designer* with several ready-to-run font sets • *Biomorph* - fascinating, graphic demonstration of natural selection - develop your own bugs! • *Readme* - program to display any ASCII text file in 45 character format on the 90 character screen - makes it easier to read. **PCW Ref: #815**

# CPC and PCW

The following discs contain compilations of public domain programs which have been tested under CP/M Plus. 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.

*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

• *Sideways* - prints text file sideways on an Epson-compatible printer. Ideal for those wide spreadsheets • *Sortany* ASCII list into alphabetical order • *Word count* - can be used on any ASCII file • *WSClean* - removes higher order bits from a text file and converts it to straight ASCII • *Calendar Generator* - prints out calendar for any year • *Simple Spell Checker* - with starter dictionary and dictionary editor • *Scoring card generator* • *Banner printers* • *Typewriter emulator* **CPC Ref: #607 PCW Ref: #807**

## DISC ORGANISATION

Catalogue your disc collection and produce a printed index. Useful for speedy location of files and for keeping your discs in order. Library utilities for archiving and saving disc space. File dating system. Squeeze and unsqueeze for saving up to 40% disc space. Menu system - allows menu-driven access to programs on a disc. Completely and easily user-definable. **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**

## GAMES COMPENDIUM

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. **CPC Ref: #613 PCW Ref: #813**

## ADVENTURES

• *Colossal Cave Adventure* which originated on main frame computers. With game save and re-load • *Bestiary* (written in Mallard Basic for either PCW or 6128 Mallard users. Standard CPC users see *Adventure's Attic March 1989*) - you play the part of a young prince, your greatest love being to read the ancient bestiaries about strange and often legendary animals. Your task is to find a solution to the terrible blight which, one year, destroys both crops and animals in the kingdom. Includes game save and re-load • *Return from Arg* - a short but interesting new adventure written in 'C'. **CPC Ref: #614 PCW Ref: #814**



# THE AMSTRAD USER

Comprehensive catalogue of Entertainment and Business Software, Books, Add-ons and Consumables for all Amstrad computers.

— CPC —  
464 - 664 - 6128

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Stunt Car Racer	39.95	-
Super Scramble	39.95	29.95
Super Puffy's Saga	39.95	29.95
Super Trux	-	29.95
Super Wonderboy in Monsterland (6128 only)	39.95	29.95
Teenage Queen (Strip Poker)	39.95	29.95
Test Drive 2 - The Duel	44.95	29.95
Tintin on the Moon	39.95	29.95
Titan	39.95	29.95
Toobin	39.95	29.95
Trivial Pursuit - a new beginning	45.95	35.95
Turbo Outrun	39.95	29.95
Turrican	39.95	29.95
Tusker	44.95	29.95
Untouchables, The	39.95	29.95
Vendetta	39.95	29.95
Vindicators	39.95	-
Wanderer 3-D	39.95	29.95
War in Middle Earth	39.95	-

Unless stated otherwise, please add the following P and P charges to your remittance:

	Australia	Overseas
Order value under \$20	\$1.00	\$2.50
Order value from \$20 to \$50	\$3.50	\$6.00
Order value over \$50	\$5.50	\$10.00

## HOW TO ORDER

**By Mail:** Send a cheque, money order or quote your credit card number and expiry date (Mastercard, Bankcard or Visa) with your order to the address shown below.

**By Phone:** Have your credit card and expiry date ready and ring our Mail Order number (03) 803 9661.

The Amstrad User,  
641 High Street Road,  
Mount Waverley, Victoria 3149

MAIL ORDER: (03) 803 9661 - SHOP: (03) 803 9211

(No Mail Order enquiries at Shop please)

**Please Note:**

1. Add up the total value of the items you are ordering, then add the postage and packing charge from the table shown at the bottom of each page. Don't forget that some hardware items carry a special freight charge.
2. When ordering by mail, if possible, always quote one or two alternatives. Otherwise call us first to check availability.
3. Most orders can be reserved for up to 7 days pending payment after which they will be released for others to buy.
4. This list is prepared over 4 weeks before publication and reflects the stock holding at that time and anticipated releases advised by producers. The latter are often optimistic.

**Please allow 14 - 21 days for receipt of goods.**



## CPC continued

Wild Streets	39.95	29.95
World Cup Soccer	39.95	29.95
Xenaphobe	49.95	-
X-Out	39.95	29.95
Xybots	39.95	29.95
Yes Prime Minister	49.95	-
Zombie	39.95	29.95

### CPC BLOCKBUSTER BUDGETS

Advanced Pinball Simulator	-	11.95
BMX Simulator	-	9.95
Fantasy World Dizzy	-	9.95
Frankenstein Junior	-	9.95
Fruit Machine Simulator	-	9.95
Grand Prix Simulator	-	9.95
Hydrofool	-	12.95
Jet Bike Simulator	-	21.95
Light Force	-	12.95
Little Puff	-	9.95
Ocean Conqueror	-	12.95
Olli and Lissa 3	-	9.95
Professional BMX Simulator	-	21.95
Professional Ski Simulator	-	9.95
Shockway Rider	-	12.95
Space Harrier	-	9.95
Super Stuntman	-	9.95
Tanium	-	12.95
Technician Ted	-	12.95
Uridium	-	12.95
Wizard Willy	-	9.95
Yogi's Great Escape	-	9.95

### CPC COMPILATION PACKS

100% DYNAMITE (tape only)		
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 Crusader and Operation Wolf	-	39.95

CECCO COLLECTION		
Cybernod 1 and 2, Exolon & Stormlord	49.95	39.95

CLASSIC GAMES FOUR		
with 3-D Chess, Bridge Player, Draughts/Checkers & Backgammon	49.95	39.95

CLASSIX 1		
with Bobby Bearing, Brian Bloodaxe and Palitron (plus 2 free games demos)	29.95	-

COIN-OP HITS		
with Thunderblade, Spy Hunter, Road Blasters, Bionic Commandos and Outrun	49.95	39.95

EPYX ACTION		
with 4x4 Off Road Racing, Streets Sports Basketball, Impossible Mission 2, California Games and The Games (Winter Edition)	49.95	39.95

HOUSE MIX, THE		
with Night Raider, Dark Fusion, TechnoCop, Skate Crazy, Motor Massacre and Artura	49.95	39.95

LEADERBOARD PAR 3		
with Leaderboard, Leaderboard Tournament, & World Class Leaderboard	52.95	42.95

MINDSTRETCHERS		
with Monopoly, Scrabble and Cluedo	49.95	39.95

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

SPECIAL ACTION		
Daley Thompson's Olympic Challenge, Driller, SDI, Captain Blood and Vindicator	49.95	39.95

STAR WARS TRILOGY		
with Return of the Jedi, StarWars & The Empire Strikes Back	39.95	29.95

## CPC continued

STORY SO FAR Vol 2		
Space Harrier, Live 'n let die, Hopping Mad, Beyond the Ice Palace & Overlander	39.95	34.95

STORY SO FAR Vol 4		
Ghost Busters 1, Aliens, Wonder Boy, Eidolon (not on disc), Back to the Future and Quartet	49.95	34.95

STRAIGHT SIX		
Loricel's compilation with 3D Fight, Billy, Soccer, MGT, Flash and ZOXX2099	29.95	

THRILLTIME GOLD 1 (tape only)		
with Ghost & Goblins, Bombjack, Turbo Esprit, Paper Boy and Batty	-	39.95

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. (Dragons Lair also featured but may not load on some disk drives - buy at your own risk).	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 Designer	32.95	-

TIME AND MAGIK TRILOGY (disc for 128k only)		
Lords of Time, Red Moon and Price of Magik	49.95	39.95

TOLKIEN TRILOGY		
with The Hobbit, Lord of the Rings and Shadows of Mordor	44.95	34.95

WINNERS		
with Blasteroids, Thunderblade, Indiana Jones & the Temple of Doom, LED Storm & Impossible Mission 2	49.95	39.95

WORLD CUP COMPENDIUM		
with Gary Lineker's Hot-Shot, Track Suit Manager and Kick Off	49.95	39.95

### CPC YEAR DISCS

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	-
Year Disc 7 - Issues 33 to 36	25.00	-
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	-
Year Disc 13 - Issues 57 to 60	25.00	-

Monthly magazine tapes: each	-	5.00
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### CPC SERIOUS SOFTWARE

ADVANCED ART STUDIO (Rainbird)		
Graphics package (128k only)	69.95	-
BRAINSTORM - ideas and reporting system (6128s only)	79.00	-
CARDBOX - card filing style database (6128s only)	99.00	-

Unless stated otherwise, please add the following P and P charges to your remittance:		
	Australia	Overseas
Order value under \$20	\$1.00	\$2.50
Order value from \$20 to \$50	\$3.50	\$6.00
Order value over \$50	\$5.50	\$10.00

## CPC continued

EXTRA EXTRA - a disc of ready made graphics, fonts and clip art compatible with Stop Press	69.95	-
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MASTERFILE III - the best relational database system (128k only)	109.00	-
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MASTERCALC 128 - spreadsheet program for 6128s (or 464 with disc drive and expansion)	99.00	-
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MATRIX - spreadsheet with text editing facilities, database, mail merging etc.	59.95	-
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MINI OFFICE II - a comprehensive value package which includes six different modules enabling you to write letters, prepare reports, create computerised files, compile mailing lists, set up financial records, carry out complicated calculations, draw graphs, print out labels and communicate directly with other computers over the phone	59.00	-
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MODEL UNIVERSE - 3D rotating drawing	54.95	-
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MONEY MANAGER - powerful cash book program	59.95	-
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PERSONAL EXCELLENCE PACKAGE - High quality Mental performance analyser	o/s	o/s
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PLAN-IT - desktop organiser	39.95	-
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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	-
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PRINT MASTER ART GALLERY 1 - 140 pictures of holidays, animals, sports office etc.	50.95	-
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PRINT MASTER ART GALLERY 2 - 140 pictures of ornamental letters, flags, people	o/s	-
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PROTEXT - high speed w/p	79.95	-
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PROTEXT FILER - pop-up database for Protext. (Requires Promerge & Protext)	59.95	-
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PROTEXT OFFICE - pop-up add-ons for Protext including mailmerge and invoice generator. (Needs Promerge & Protext)	o/s	-
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PROSPELL - spell checker	69.95	-
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PROMERGE - mail merger	69.95	-
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STOCKMARKET - monitors shares etc.	49.95	-
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### STOP PRESS

The ultimate Desktop Publishing package for CPC 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 needs 128k)	
Stop Press (disc only)	129.00
With AMX MkIII Mouse	259.00
Extra Extra clip art	69.95
Mouse only	169.00

Tasword 464	-	59.95
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Tasword 464/D	69.95	-
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Tasword 6128	69.95	-
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Tas-spell	49.00	-
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Tasprint	39.00	39.00
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Tascopy	39.00	39.00
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Tasdiary	39.00	-
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Tas-sign	69.95	-
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Touch 'n' Go - Typing tutor (6128s only)	69.00	-
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Ultrabase - easy database	69.95	-
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### CPC EDUCATIONAL

From SCHOOL SOFTWARE		
Play School (Ages 3-7)	29.95	22.95
Magic Maths (Ages 4-8)	29.95	22.95
Maths Mania (Ages 8-12)	29.95	22.95
Better Maths (Ages 12-16)	29.95	22.95
Maxi Maths (Ages 12-16)	29.95	-
Physics (Ages 12-16)	29.95	22.95
Better Spelling (Ages 9-99)	29.95	22.95
Chemistry (Ages 12-16)	29.95	22.95



## CPC continued

Biology (Ages 12-16)	29.95	22.95
Weather/Climate (Ages 12-16)	29.95	22.95

### From Satchel Software (Education Dept. of SA)

<b>For 6128s only</b>		
Abscoded Convicts	50.00	-
African Farming Game	50.00	-
Anna	60.00	-
Artworks	50.00	-
Catastrophes	50.00	-
Chart Buster	50.00	-
Convict Ships	50.00	-
Cordial Stall	40.00	-
Cross Whiz	50.00	-
Disasters	50.00	-
Dragon World	60.00	-
Find-a-book	50.00	-
First Fleet	50.00	-
Granny's Garden	50.00	-
Guess the Word	50.00	-
Hammurabi	40.00	-
Jara Tava	60.00	-
Kadimakara - Creatures of the Dreaming	60.00	-
Logo Screen Dump	25.00	-
Mathbooster	50.00	-
Math Games 1	50.00	-
Math Games 2	50.00	-
Math Hopper	50.00	-
Mosaic	40.00	-
News Writer	50.00	-
Omicron	50.00	-
Pathweaver	50.00	-
Picture Book	50.00	-
Picture Book Companion	40.00	-
Point Puer Lads	50.00	-
Print Machine, The	50.00	-
Sailing South	50.00	-
Settlement	50.00	-
Soft Word	50.00	-
Step Inside	40.00	-
Story Paths	40.00	-
Tree of Knowledge	50.00	-
Where's Baby Bear?	50.00	-
Which way Words	40.00	-
Word Hunt	40.00	-
Word Hunt Companions		
Volume 1, 2 or 3 ... each	40.00	-
Word Processing Pack	60.00	-
World Wide	50.00	-

### From LCL SOFTWARE

Micro Maths (Grades 9-11)	49.95	-
Mega Maths (Grades 9-11)	49.95	-
Micro English (Grades 9-11)	49.95	-
Primary Maths (Ages 7-11)	69.95	44.95

### From FERNLEAF SOFTWARE

(Developing Reasoning, Logic, Estimating and Forward Planning skills).

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	-

### From FUN SCHOOL: three discs in the series each 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 continued

### 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

**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

**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 for screens, windows, arrays and variables. Allows the use of CP/M Plus as supplied on the 6128. 159.00

**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 and right 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

Unless stated otherwise, please add the following P and P charges to your remittance:		
	Australia	Overseas
Order value under \$20	\$1.00	\$2.50
Order value from \$20 to \$50	\$3.50	\$6.00
Order value over \$50	\$5.50	\$10.00

light grey colour for:

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

**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
Bridge Player 2150	69.95
Clock Chess '89 (strong game) - all PCWs	59.95

**Complete Home Entertainment Compilation - with Backgammon, Dominoes, Darts, Poker, High-Low, Pontoon and Wordsearch game** 49.95

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 (graphic arcade adventure) 39.95

Graham Gooch Cricket (Ltd.Overs & Test Match featuring full animation of bowler, batsman and fielders) \$ 49.95

Gnome Ranger 59.95

Heathrow ATC (Air Traffic Control Simulator)/Southern Belle (Steam Train Simulator) - both on same disc 57.95

Ingrid's back 59.95

Knight Orc 59.95

Lancelot 39.95

Mindfighter 65.95

Return to Doom (Topologika adventure) 54.95

Scapghost (Level 9 adventure) 49.95

Steve Davis' Snooker 54.95

Time and Magik Level 9 trilogy:  
Lords of Time, Red Moon & Price of Magik 54.95

Tomahawk: helicopter simulation 49.95

World of Soccer - international Soccer management simulation 59.95

**PUBLIC DOMAIN DISCS (see Page 55)** 17.50

### PCW YEAR DISC

Containing all the PCW type-ins published in The Amstrad User for issues shown  
Year Disc 1 - Issues 25 to 40 27.50

### PCW EDUCATIONAL

Better Maths (12-16 yrs)	29.95
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
MicroDesign 2 - new superb integrated Page Processor compatible with AMX or Kempston mouse	169.00
Newsdesk International	89.00
Stop Press (program only)	149.00



## PCW continued

Stop Press (program + mouse and interface) 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 in a logical manner 79.00  
**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 (not for 9512) 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  
**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 Protex 59.95  
**PROTEXT OFFICE** - as Protex Filer but with mail-merge and invoice generator module 79.95  
**PROTEXT PCW** 149.00  
**PROPELL 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  
**SYSTEM 3** - an integrated accounting system with Stock Control, Invoicing, and Cashflow controller 129.00  
**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  
**WORDDISC** - a disc full of approximately 35000 synonyms divided among 5930 main words. Used with LocoFile on B drive of 8512 or A drive of 9512 49.95

### 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

## PCW continued

after peripherals for your PCW, especially with Stop Press 199.00

**KEMPSTON MOUSE plus interface - new style two-button mouse supplied with Jeeves (memory resident desktop accessories) and Datafax personal organiser program. Mouse can be used with Stop Press, Desktop Publisher or the new MicroDesign 2 package.** 199.00

**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

**SCA RAMPAC 512k EXPANSION UNIT** - simply plugs into the expansion port of any PCW. Adds an extra 512k to the 'M' drive allowing LocoScript2, Locomail, Locospell and more to be loaded at the same time. Through-connector allows other peripherals (eg. a mouse interface or serial/parallel interface) to be used at the same time. 299.00

**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

**CF2 3" DISCS** each 7.25

### PCW LOCOMOTIVE PRODUCTS

**LOCOSCRIPT 2** (latest) with manual 87.00  
**LOCOSCRIPT2** (latest) Disk only 49.95  
**LOCOSCRIPT 2 + LOCOSPELL2** pack 130.00  
**LOCOMAIL2** 105.00  
**LOCOSPELL2** 75.00

The following are for PCW 8000s using LocoScript 2.12 and above (Please state 8000s):

**24 PIN PRINTER DRIVER** - suitable for most 24 pin printhead printers attached to 8000s 64.95

**PRINTER CHARACTER SET DISC** for defining new character sets 59.95

**EXTRA PRINTER DRIVERS DISC** containing a Printer File for every LocoScript2 compatible printer 59.95

**KEYBOARDS DISC** to configure LocoScript2 to use American, Canadian, Danish, English, French, German,

## PCW continued

Italian, Norwegian, Spanish or Swedish keyboard layouts with any nationality of LocoScript2. 59.95

**LOCOFILE/8000** - the resident 'pop-up' database for LocoScript2 110.00

**LOCOFILE/LOCOMAIL 8000** - the 'pop-up' database with mailmerging program in one pack 185.00

**LOCOFONT SET 1** nine extra fonts for your printer 75.00

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<b>Chartman - business graphics</b>	99.00
<b>Condor 1 Jnr †</b>	149.00
<b>Contactmate- productivity package which controls personal &amp; business contacts #</b>	69.95
<b>Corporate Finance †</b>	199.00
<b>Desktop Accountant †</b>	399.00
<b>DGCalc - 512 rows x 52 column spreadsheet performing essential functions and more</b>	89.95

## PC continued

<b>Dream House Professional - floorplan drawing †</b>	129.95
<b>Financial Accounting for non-Accountants †</b>	199.00
<b>Harvard Graphics #</b>	420.00
<b>Harvard Project Management #</b>	590.00
<b>Home Accounts - 60 expenditure categories and 10 income accounts with budgetting &amp; bank/cash reconciliation †</b>	89.95
<b>Home Office Plus - word processor, database, desktop publisher, drawing, diary, mailing list, rolbase and dictionary all in one package †</b>	129.00
<b>Home Office Publisher - complete desktop publishing with WYSIWYG display † (requires dual drives)</b>	129.00
<b>In-house accountant †</b>	299.00
<b>Masterfile PC version 3 standard - the most popular database for Amstrad PCs &amp; compatibles #</b>	199.00
<b>Masterfile PC version 3 full - the standard version with an integrated word processing module included #</b>	269.00
<b>Mini Office Personal - integrated database, wordprocessor, Spreadsheet and label printer</b>	99.95
<b>Money Manager PC - cash book including graphics</b>	79.00
<b>Moneymate - a well organised personal finance management package handling up to 10 bank accounts and 25 credit cards, 200 income/expense categories, budgeting, cash flow etc. (can use mouse) #</b>	119.00
<b>My Accountant - personal and small business record keeper with up to 100 user defined accounts †</b>	39.95
<b>Oxstat: Spreadsheet/Statistics built-in formulae v.2</b>	234.00
<b>Oxstat: Spreadsheet/Statistics built-in formulae v.5</b>	350.00
<b>Paperbase: Bibliography &amp; Manuscript preparation</b>	215.00
<b>Personal Cardbox Plus †</b>	349.00
<b>PFS: First Choice #</b>	120.00
<b>PFS: First Graphics #</b>	129.00
<b>PFS: First Publisher #</b>	129.00
<b>PFS: Preface #</b>	110.00
<b>Professional File #</b>	290.00
<b>Professional Plan #</b>	165.00
<b>Professional Write 2.1</b>	210.00
<b>Protect PC #</b>	169.00
<b>Protect Filer PC #</b>	59.95
<b>Protect Office #</b>	79.95
<b>RAM JET EXECUTIVE - gives PC1512 only a disc cache, print buffer, screen accelerator</b>	69.00
<b>Scratchpad Plus †</b>	99.00
<b>Sage Series (fully supported in Australia) †</b>	
Bookkeeper	299.00
Accountant	449.00
Accountant (network version)	900.00
Accountant Plus	749.00
Payroll (up to 999 employees)	599.00
<b>Sales Force Management †</b>	199.00
<b>Stockmarket - watch your shares</b>	79.95
<b>Swiftcalc - Spreadsheet + sideways printing †</b>	69.95
<b>System 3 - Invoicing, stock control and cashflow †</b>	129.00
<b>Tait Accounting - small business accounting with Debtors, Creditors and Invoicing</b>	129.00
<b>TBM (formerly ABC Business Pack) - an Australian supported integrated accounting and stock control package with many extras</b>	499.00
<b>TRIO - Word Processor, Database and Spreadsheet</b>	99.95
<b>Top Copy - word processing with spell checker and mail merge</b>	69.00
<b>Twin Advanced - integrated spreadsheet (like Lotus), graphics and database</b>	159.00

## PC UTILITIES

<b>3-D GAME MAKER</b>	49.95
<b>AWARD WARE - certificates, banners, cards</b>	49.95
<b>BACK-UP PRO #</b>	89.95

<b>Unless stated otherwise, please add the following P and P charges to your remittance:</b>		
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Order value from \$20 to \$50	\$3.50	\$6.00
Order value over \$50	\$5.50	\$10.00

## PC continued

<b>BANK STREET WRITER PLUS - famous Word Processor including 60,000 spell checker &amp; Thesaurus #</b>	124.95
<b>BANNER MANIA # (for colour printers too)</b>	69.95
<b>CERTIFICATE MAKER - over 200 to choose from</b>	49.95
<b>CREDIT CARD ACCOUNTING SYSTEM</b>	29.95
<b>CROSSWORD MANIA †</b>	34.95
<b>DELUXE PAINT ANIMATION - for superb animation on VGA screens with 256 colours (640k and above only) #</b>	169.95
<b>DISCO HARD DISK MENU SYSTEM - creates personalised menus, runs common DOS commands with one keypress.</b>	99.00
<b>DOS-RX - disk management utilities and tools</b>	64.95
<b>EASYSIGN: Prep. of teaching &amp; camera ready text</b>	50.00
<b>EXPERT SERIES:</b>	
Disc Tools	39.95
Filer	39.95
Money Power	39.95
PC Protection	39.95
Perfect Typing	39.95
Personal Finance	39.95
Personal Forms	39.95
Personal Publisher	39.95
Personal Skills	39.95
Writer	39.95
<b>FILE RESCUE PLUS</b>	69.95
<b>GO! SERIES (all contain Computer ToolBox utility)</b>	
<b>GO! START - four function calculator, letter writer and typewriter, computer toolbox, address filer, notepad, maze game, print function for printing envelopes and address lists</b>	29.95
<b>GO! WRITE - prompts for business letters, memos, reports, invitations, calendars, banners and address forms</b>	29.95
<b>GO! FILE - fully functional database, just fill in the blanks in ready made file forms</b>	29.95
<b>GO! PLAN - fully functional spreadsheet, just fill in the ready made forms for planning retirement, savings, car expense, loans, etc.</b>	29.95
<b>HOME ORGANISER - with Inventory, Shopping list, Librarian and Planner †</b>	15.95
<b>IANKEY TYPING TUTOR - crash course #</b>	59.95
<b>IANKEY TYPING TUTOR - for 2 finger typists #</b>	59.95
<b>LOTTERY WHEEL †</b>	34.95
<b>LOTTERY TREND - analysis †</b>	34.95
<b>MAIL SHOT PLUS - with graphical layout</b>	99.00
<b>MASTERING YOUR PC - a DOS &amp; Typing tutorial</b>	39.95
<b>NEWSROOM, THE - design and print newsletters</b>	49.95
<b>PAINT SHOP - graphics with label feature †</b>	39.95
<b>PERSONAL BANKING RECONCILER</b>	29.95
<b>PERSONAL POSSESSIONS INVENTORY</b>	29.95
<b>PERSONAL WEDDING PLANNER †</b>	69.95
<b>PIC TRIVIA †</b>	34.95
<b>PRINT MAGIC †</b>	49.95
<b>PRINT SHOP (NEW) - over one million copies sold of this eas to use personal graphics package. 8 type styles, 9 borders, dozens of pictures to create personal cards etc. #</b>	99.95
<b>ADD-ONS FOR NEW PRINTSHOP</b>	
Sampler disk - graphics covering holidays, birthdays, School, Sports and more †	59.95
Party disk - graphics for Weddings, Welcome Home, BBQs, Parties, Valentine's Day etc. plus borders †	59.95
School & Business Edtn - over 100 eye-catching pictures for the office or student environment †	59.95
<b>ADD-ONS FOR OLD PRINTSHOP</b>	
PrintShop Companion - adds a calendar to old Print Shop (monthly and weekly formats) plus facility to edit existing old Print Shop graphics †	89.95
Disk 2 - symbols for hobbies, occupations, travel, music and health †	59.95
Holiday Edtn - 70 graphics for Christmas, Hanukkah, New Year, 10 new typefaces, 14 borders & 12 full panel designs †	59.95
<b>UPGRADE FROM OLD TO NEW PRINTSHOP †</b>	34.95
<b>PRINT POWER - multi fonts &amp; borders</b>	69.95
<b>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,</b>	



## PC continued

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) 99.95  
**PUBLISH-IT PORTFOLIOS**  
**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  
**QUESTION MARK: Surveys, Examinations & Tests** 370.00  
**QUESTION MARK: Graphics add-on** 200.00  
**QUESTION MARK: Foreign Language add-on** 75.00  
**SIGNWRITER: Adv. version of Easysign + graphics** 215.00  
**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  
**SPRINGBOARD PUBLISHER** - a desk top publishing program with full featured word processor and high quality graphics program all running under MicroSoft Windows † 249.95  
**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  
**WORKS OF ART - Clip Art to be used with Springboard Publisher and most other DTP packages.**  
 Educational Series - over 500 images 79.95  
 Holiday Series - as above 79.95  
 Laser Art Business - 125 professionally drawn pics 79.95

## PC PUBLIC DOMAIN/SHAREWARE

	5.25"	3.5"
PC-SOFT #1 - 19 Basic2 utilities and games-	10.00	-
PC-SOFT #2 - 8 games for all Amstrad PCs -	10.00	12.50
PC-SOFT #3 - 24 utilities for all Amstrad PCs -	10.00	12.50
PC-SOFT #4 - 6 games for all Amstrad PCs -	10.00	12.50
PC-SOFT #5 - 23 utilities for all Amstrad PCs -	10.00	12.50
PC-SOFT #6 - Ford Driving Simulator v.2 -	10.00	12.50
PC-SOFT #7 - WP for Kids/Funnels & Buckets	10.00	12.50
PC-SOFT #8 - Junior Word Games	10.00	12.50
PC-SOFT #9 - Education Games for Kids: 1	10.00	12.50

## 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 trim controls for accurate movement, and rubber feet for surface grip 39.95

**JUNBO JOYSTICK:** the smallest in the 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 "Valulife" 3.5" (packs of five) per pack... 17.50  
 KAO "Amstrad User" 5.25" (packs of ten) per pack... 22.50  
 KAO "Amstrad User" 5.25" (packs of two) per pack... 4.50  
**DISK DRIVE HEAD CLEANERS**  
 3.5" for PPC, PC20 or PC2000s 17.95

## PC continued

5.25" for PC1512/1640 17.95  
**IBM PARALLEL PRINTER CABLE** 29.95  
**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 34.95  
**MODEM** - Amstrad's MC2400 (V21, V22, V22 bis and V23 2400 bps). Works with any IBM compatible and comes with communications software. 399.00

## SCANNERS

**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 (not suitable for 512k computers)  
**NEW LOW PRICE >>>** 399.00

## MOUSE(S)

**GENIUS GM-F303** Serial Mouse - comes with mouse holder, mouse pad, CasCAD, Dr Genius and Menu Maker software and PS/2 cable 149.95  
**GENIUS GM-F302** Serial mouse (same as F303 but not provided with CasCAD software or cable) 129.95  
**GENIUS GM6X** Serial mouse with Dr Halo software 79.95  
**QTRONIX X-30MD** Serial mouse with Dr Halo Plus software, mouse pad, mouse holder and cabling as requested 119.95  
**QTRONIX MBC-30 BUS CARD** to accept the X-30MD and leave the serial port free 46.95  
 Please note: while the above mouse(s) are designed for use on XT's, AT's and PS/2's, they will not work on the following Amstrad XT's: the PC1512, 1640 and PC2086. They can be used on the Amstrad AT's, namely the PC2286 and 2386.

## 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  
**Star NX-1000, NX 24-10, NB 24-10** 17.00  
**Star NX15, NB 24-15** 30.00  
**Epson LQ500, LX-800** 17.00

## PRINTER RIBBONS

Epson: MX/FX/RX 100, 100+, 105, 105+ 10.95  
 Epson: LX80, 86, 90 8.95  
 Epson: LQ500, 800, 850 15.95  
 Epson: FX800, LX800, 850 10.95  
 Star: NX1000, LC10 10.95  
 Star: LC24/10, NX 24/10 15.95

## 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 under \$20	\$1.00	\$2.50
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 †	530.00
Excel for Windows #	890.00
Learning DOS †	99.00
Multiplan #	360.00
Project #	730.00
QuickBasic Compiler †	195.00
QuickC †	195.00
Windows 286 †	205.00
Windows 386 #	365.00
Word †	710.00
Works #	320.00
Word Exchange †	125.00

# — BOOKS —

## CPC TITLES

Advanced User Guide **SPECIAL LOW PRICE >>>>** 9.95  
 Childs' Guide to the Amstrad Micro 13.95  
 Computer Games Guide (400 Hints, Tips & Pokes) 29.95  
 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  
 Practical "C" 29.65  
 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
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
<b>LocoScript2/LocoMail/LocoSpell: assignments and solutions</b>	<b>32.95</b>
Mallard Basic - Introduction and Reference by Locomotive Software	39.50
Mastering the Amstrad PCW 8256/8512	32.25



# mail order

## BOOKS continued

Pocket Wordstar	30.95
<b>PCW Machine Code</b>	<b>39.95</b>
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. <i>Over 500 pages of everything you need to know about CP/M Plus. Includes a GSX supplement</i>	52.95
Choosing & Using CP/M Business Software (for PCWs)	35.95

### PC TITLES

Abacus Books for Beginners:	
<b>Cobol for Beginners</b>	<b>36.95</b>
<b>dBase IV for beginners</b>	<b>36.95</b>
<b>Excel for Beginners</b>	<b>36.95</b>
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
Abacus Quick Reference Guides	
dBase III	24.95
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	42.50
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
<b>Laptop Users Guide</b>	<b>36.95</b>
Lotus Agenda	39.95
<b>MS-DOS Tips and Tricks</b>	<b>36.95</b>
PC System Programming for developers: <i>an encyclopaedia for DOS programmers</i>	69.95
PC1640 Technical Reference Manual	54.95
<b>PC File Formats &amp; Conversions (with 5.25" disk)</b>	<b>49.95</b>
<b>PC Tools Companion</b>	<b>36.95</b>
<b>PC Tools Complete</b>	<b>49.95</b>
PPC Technical Reference Manual	54.95
Program your PC	32.95
Simple Basic2 Programs on the Amstrad PC1512/1640	29.95
Step-up Systems Quick Reference Guides	
dBase III Plus	44.95
dBase IV	44.95
Lotus 123 vers 2.01	34.95
Lotus 123 vers 2.2	34.95
MS-Word vers 5.0	34.95
Multimate Adv II	34.95
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WordPerfect 5.0	34.95
Step-up Systems Templates	
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Lotus 123 vers 2.2	19.95
MS-Word vers 5.0	19.95
Multimate Adv II	19.95
PC/MS-DOS	19.95
WordPerfect 5.0	19.95
<b>Tips &amp; Tricks for your PC Printer (with 5.25" disk)</b>	<b>69.95</b>
<b>Turbo Pascal Internals</b>	<b>89.95</b>
(with 800k of programs on 2 x 5.25" disks)	
Using the Amstrad PC 1512/1640	29.95
Using Ability on the Amstrad PC	34.95
Using DOS Plus on the Amstrad PC1512	39.95
Using desktop publishing on the Amstrad PC	29.95
Using GEM on the Amstrad PC1512	55.00
Using MS-DOS on the Amstrad PC1512/1640	29.95
Using Printers on the 1512/1640	29.95
Word Processing using GEM Write	45.95

### OTHERS

Computer Viruses	49.95
Computers and the Law	65.00
<b>Creative Printmaster Book</b>	<b>29.95</b>
Introducing dBase	o/s
<b>Leisure Suit Larry Story (hints, tips + solution)</b>	<b>29.95</b>
Managing your Computing: a practical handbook	50.00
Microcomputer - troubleshooting & repair	48.95

## — COURSES —

Complete introductions comprising audio tapes, disks and text

### MACHINE SPECIFIC

Amstrad PC 1512 and 1640	59.95
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

### OTHER COURSES

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

## — MAGAZINES —

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Iss. 19 - Aug 86	Iss. 20 - Sep 86	Iss. 21 - Oct 86
		.....each 3.50

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

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		.....each 3.75
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Iss. 46 - Nov 88	Iss. 47 - Dec 88	Iss. 48 - Jan 89
Iss. 49 - Feb 89	Iss. 50 - Mar 89	Iss. 51 - Apr 89
Iss. 52 - May 89	Iss. 53 - Jun 89	Iss. 54 - Jul 89
Iss. 55 - Aug 89	Iss. 56 - Sep 89	Iss. 57 - Oct 89
Iss. 58 - Nov 89		.....each 4.25
Iss. 59 - Dec 89	Iss. 60 - Jan 90	Iss. 61 - Feb 90
Iss. 62 - Mar 90	Iss. 63 - Apr 90	Iss. 64 - May 90
Iss. 65 - Jun 90	Iss. 66 - Jul 90	Iss. 67 - Aug 90
Iss. 68 - Sep 90		.....each 4.50

## — BINDERS —

**BINDERS** - in white vinyl with THE AMSTRAD USER logo in silver on front and spine. Protects twelve copies. 12.95

## MISCELLANEOUS

**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

## — VOUCHERS —

*Gift Vouchers are an ideal gift for birthdays (or any other occasion for that matter) which allows the recipient to make his or her own choice of computer merchandise.*

*Any value of voucher (over \$20) can be purchased, but must be used through The Amstrad User Mail Order service or The Amstrad User Computer Shop, our retail outlet in Mount Waverley.*

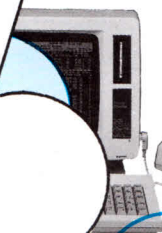
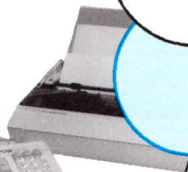
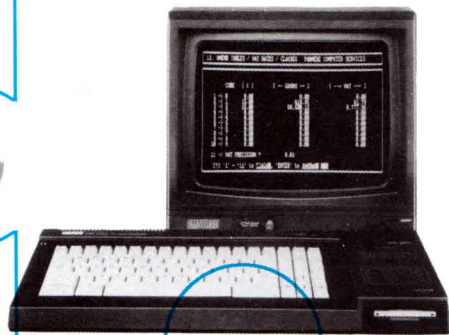
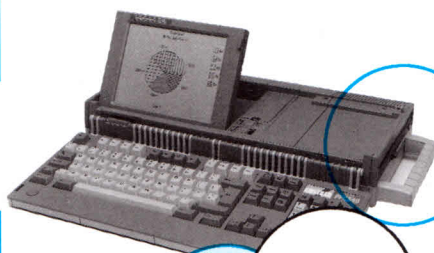
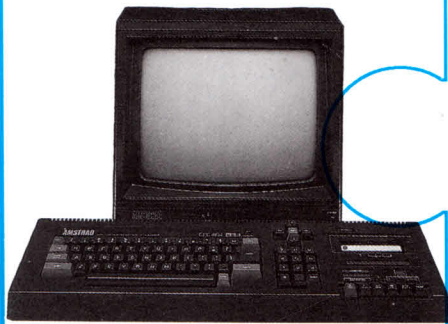
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# MASTERFILE 8000

FOR ALL AMSTRAD PCW COMPUTERS

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

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

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

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

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

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

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

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

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

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

**Megaglomerate Ltd**

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

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

Ref	Maker	Model	Specification	Price ex VAT
C9001	Epson	FX85	180cps 40x10 00col	£310
C9002	Epson	FX105	180cps 40x10 132col	£410
C9003	Epson	FX100	180cps 132col	£195
C9004	Epson	LX80	100cps 220x10 00col	£435
C9005	Epson	LX100	100cps 220x10 00col	£575
C9006	Epson	LX100	100cps 220x10 132col	£275
C9007	Epson	LX100	100cps 220x10 00col	£235
C9008	Epson	450	180cps 45x10 00col	£370
C9009	Canon	455	180cps 45x10 00col Colour	£410
C9010	Canon	5510	180cps daisywheel	£630
C9011	Juki	5520	15cps daisywheel	£200
C9012	Juki	6100	30cps daisywheel	£250
C9013	Juki	6300	25cps daisywheel	£1,795
C9014	Juki	DX	220cps 50x10 132col	£2,700
C9015	Fujitsu	DX	8 page min M4	£1,900
C9016	Fujitsu	LBP5A1	8 page min M4 graphics	£2,650
C9017	Canon	LBP9A2	8 page min M4	£285
C9018	Canon	Laser	8 page min M4 graphics	
C9019	HP	Laser	100cps 50x10 00col	
C9020	HP	XP-810		
C9021	Taxan			

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British United Freight  
 493 Western Avenue  
 Gloucester  
 GL9 5JN

Tel: 0452 6...  
 Contact: Mike  
 Ref: BUF

Invoice	Tax point	Amount	Date paid	Co
12004	20 Aug 87	£235.00	02 Oct 87	
12395	29 Aug 87	£98.00	02 Oct 87	
12450	01 Oct 87	£305.00		re
12453	21 Oct 87	£133.00		
12533	03 Nov 87	£1,004.50		
12598	10 Nov 87	£355.65		
12703	11 Nov 87	£200.00		
12782	11 Nov 87	£39.20		
12839	04 Dec 87	£883.55	04 Dec 87	Cash with order
<b>Totals:</b>		<b>£3,253.90</b>		

Date of invoice

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

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

MASTERFILE 8000 costs \$119.00 (excluding postage and packing).

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

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