THE AMSTRAD USER

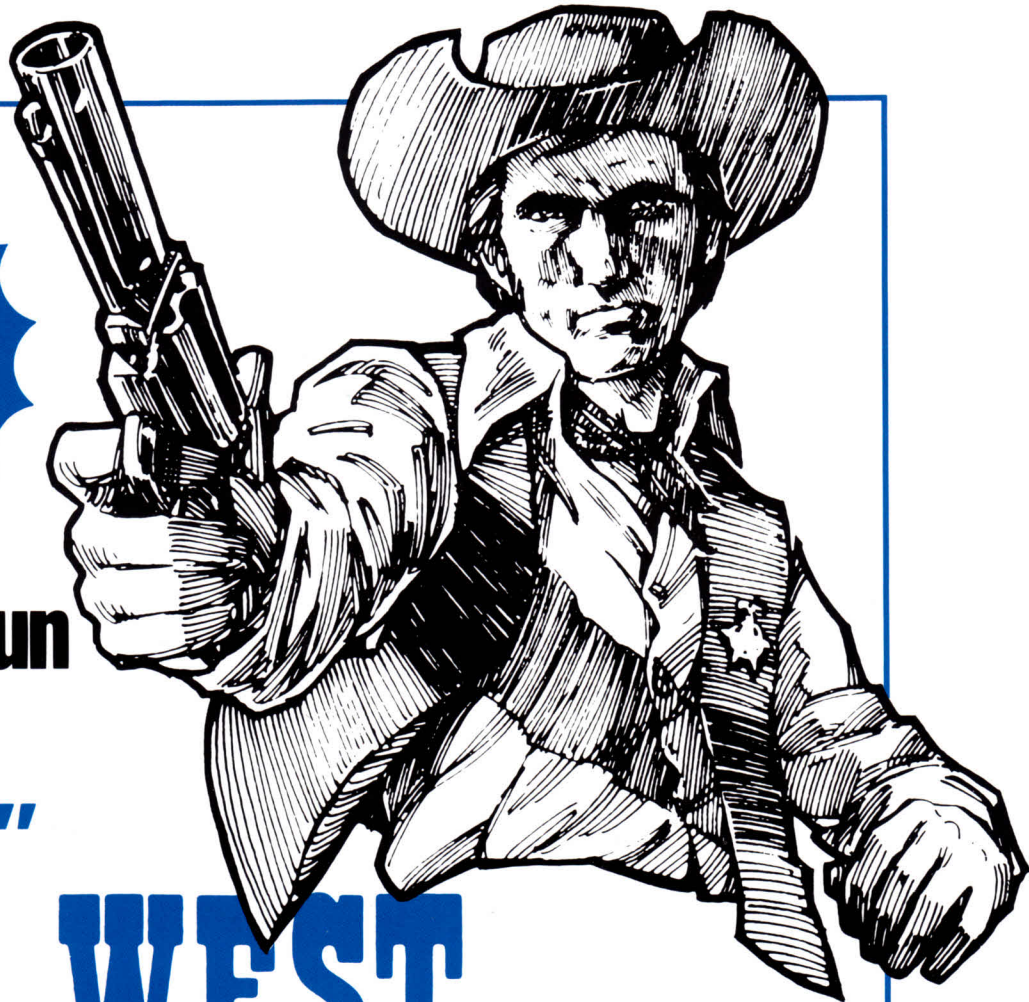Issue No. 63 $4.50   April 1989

- **Games Special with reviews of nearly two dozen releases for CPCs and PCs + final part of CPC database type-in**
- **More on Artificial Intelligence with heaps of code + LocoMail as a language + making Protext user-friendly**
- **Piracy in the software industry + Hard disks and MS-DOS**

FOR THE NOVICE ... USER

FRONT COVER: One of the many foes you will encounter in Sierra's fantasy role-playing game, "Heroes Quest".

THE AMSTRAD USER

Issue No. 63 - April 1990

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

Side 1: EXPERT2 - 010 TEACHER2 - 090

Side 2: CPCDBASE - 010

Letters to the Editor

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

PCW8512 owners may have had the problem of 'Missing Address Mark' errors when using drive B: in CP/M. For example, I have found that this may occur when I have been using a B: format disc, then put in an A: format disc to copy files etc. A simple corrective course of action is to press [STOP] (or the ALT-C combination). This issues the Control-C command, which performs a reset of the disc system. This is NOT the same as selecting 'C' when you get the 'Retry, Ignore or Cancel' message at the bottom of the screen.

After a disc reset, CP/M discards all its information about the disc, and then re-gathers it when the disc is next accessed. Earlier versions of CP/M (e.g. CP/M 2.0) required an explicit disc reset every time the disc was changed. This was achieved with a warm boot via the CONTROL-C command.

Generally, CP/M 3.0 does not require explicit disc resets. Under Amstrad CP/M 3.0, a disc log in entails a two stage process. Firstly, the system determines the disc format by reading certain information from the disc (sector 0, track 0). It then updates the directory tables, etc in system memory. However, this two stage process is performed only for the first disc access after a disc reset. Therefore, once a disc has been reset and accessed once, subse-quent drive accesses only invoke the system directory information update and not the format determination routine.

The operation of drive B: alters if it is reading a 40 track disc such as a drive A: disc, in that the system commands the drive to 'double step'. On a 40 track disc, the tracks are twice as far apart as on 80 track discs. Therefore, the drive must take two 'steps' to cover the distance between tracks on a 40 track disc.

Now, the story unfolds. Normally, if you just use B: format discs in drive B:, there is no need for the PCW to refresh its disc format information. If you have used an 80 track disc, and then attempt to use a 40 track disc (without resetting the disc system), the PCW thinks it is still reading an 80 track disc, and then tries to read information from the disc where none is written (i.e. between tracks). The missing address mark error occurs because the drive cannot find a good sector. Conversely, if you have been using a 40 track disc, and then attempt to use an 80 track disc, you may get a 'No Data' error, because information may be skipped over; a disc reset also fixes this. This action works because it forces the PCW to gather all its disc information afresh.

Not all instances of the 'Missing Address Mark' or 'No Data' errors are due to temporary insanity in the PCW: there may actually be a corrupt sector on the disc. However the disc reset should be always attempted as a first course of action for such errors.

Paul R Hunt, Toowong, Qld.

I urgently need a program on genealogy for my family records. Can any reader help (6128). May your great mag. become even greater.

L.J. May, Inglewood, Vic.

Flattery will get you everywhere, but in this instance we can't help. However, there will be a review of a Geneological package for the PC next month. We believe that it is available from the UK for the PCW under CP/M so it may be OK for a 6128. Stay tuned!

Here I am again writing another letter you won't print. This time it's about the good ol' Locomotive Basic. After we recently bought a PC1640 I had a look at Basic 2 and GEM (Get Extremely Mad). What a disaster. After living with the wonderful Locomotive Basic for several years I almost died. I think I'll keep to Locomotive. The BASIC2 manual is non-existent and doesn't get into the details. The price of buying the manual is ridiculous. With the 6128 at least you really got "the works" as Amstrad love ramming

down our throats.

Onto something different. Is the Advanced Music System ever going to come out to Oz? I've had my name down on a waiting list for almost a year now. Will it ever arrive? From what I've read in British mags it seems pretty good except for several limitations.

Back to Basic 2. Is it possible to redefine your own characters and use sound? I enjoy mucking around with sound on the 6128 and want to get stuck into it on a PC with faster processing etc. Can someone help me with Thunderbirds (CPC). After struggling for several months and drowning Brains I don't know how many times I have finally given up. Can anyone help?

Well that's about it from here. Thanks for a great mag and keep up the good work, especially the Mail Order Service. It's Great!!!

Joel Hampton, Mt. Barker, SA

The Mail Order department does not often get requests for music

related software for the CPCs. The Advanced Music System is an old title which is no longer available. They have, however, brought in from the UK the RAM Music Machine when specially requested. It's a full sound sampling system which records sounds digitally into your computer to be replayed at different pitches and with different effects. It supports full MIDI in/out or thru and the sounds produced can be mixed with a MIDI Synthesiser's own sounds. The disk or cassette system costs $175.00.

I think your magazine is great, but how about a chart of the top-ten selling software items of the month and, also, when a game is reviewed a rating out of one hundred should be given to give the reader a better idea of what the game is like overall. But now to my problem.

I own a CPC6128 and I am wanting to connect a data-cassette to it. Is it possible to connect an

ordinary tape player to my computer if I bought the correct connecting lead? If this is possible, where can I purchase a cable and approximately how much? If this is not possible, could you please tell me where I can purchase a data-cassette as well as a connecting cable and approximately how much?

Keep up the good work.

Stephen Hoade, Ulmarra, NSW

You need a CL/1 cable to connect a cassette player to your CPC. Amstrad has been 'assembling' some for the last few months. Hopefully we should have stocks soon at around $17.95 each.

I am one of the readers who contributed information about the 22DISK CP/M to MS-DOS transfer utility (TAU April 1989). My initial trials with it involved transfers to and from 5.25" drives, and I found no problems. Some minor problems

occurred later, when the transfer was from 5.25" (360k, CP/M) to 3.5" (720k, MS-DOS) drive: at the end of the transfer the message "Sector not found" (or something similar), "Press R to Retry, I to ignore etc." appeared. Pressing R completed the transfer without any problem, I imagine that pressing I or C would not close the file properly and leave it corrupted. A friend using the same utility had a similar experience, but successfully transferred about 20k of CPC BASIC (saved in ASCII) to GWBASIC on the PC20. I think that the problem is somehow caused by the different response times of the two drives.

A different problem showed up when transferring MS-DOS to CP/M format. If the MS-DOS file finished in the last record of a sector (i.e. the last 128 bytes of the 512 byte sector), the last sector did not get transferred. The cure here was to extend the file into the first record of the next sector. I recall having read somewhere that DOSPlus exhibits a very similar bug.

I also have two queries: Is there a CP/M3 emulator for MS-DOS (I have one, but it will only deal with CP/M 2.2)? Is DR LOGO available to run under MS-DOS?

Petr Lukes, Toowoomba, QLD.

I just got a PC20 for Christmas, I used to have a CPC6128. I knew everything about the CPC but I don't know didyly squate about the PC20. I've been having this problem lately. I can't catalogue the directory. I followed the book word for word on the command called CHDIR, but that doesn't do anything. Would you happen to know how to catalogue directory, if you do, please tell me what it is, because I can't run any of my software.

I've been looking through all my old TAU magazines and finding a lot of programs for the PC, but they're in BASIC2 which is no good because I can't find that program on my MS-DOS disc. So would you be able to print some programs in GW-BASIC please.

If you can help me, I would be very grateful for the help.

Craig Martin, Banksia Park, SA.

To catalogue a directory you merely type DIR at the A> prompt, in much the same way as you would type CAT at the Ready prompt on a CPC. Typing DIR \W will give you the contents in tabular form. Coincidentally, we were going to include a GW-Basic type-in with this issue, but ran out of room. Perhaps next month.

I recently purchased the Elite Collection and found a game in the collection called Ghosts 'n' Goblins. I found it is quite different to the arcade version. In the version I purchased you can't change your weapons which I think is really slack and when you get touched by a nasty you die straight away but with the arcade version you lose your armour first then if you get touched again you die. Could anyone please tell my why the home computer version is different to the arcade version. Also does anyone out there who reads this fabulous, extraordinary magazine have a cheat mode for this game. If you do I would be very grateful if you could produce one.

Darren Nedwich, Townsville, QLD.

You can also die if you don't take a breath when reading long sentences! We don't think anyone, except the original programmers, are going to be able to tell you why there is a difference between the original arcade and the home computer version.

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

Chris Bevan (CPC)
9 Blume Terrace
Mount Gambier
S.A. 5290

Craig Bridgman (6128)
22 Atkin Street
Melton Vic. 3337

Deon Cameron
30 Ann Street
Coffs Harbour,
NSW 2450

Thorsten Gehrke (6128)
10 Dillon Street
Redwood Park
S.A. 5097

Richard Jacquemin (464)
177 Railway Avenue
Kelmscott W.A. 6111

Matthew Jones (464)
30 Perry Street
Mudgee
N.S.W. 2850

Chris Maloney (464 &PC)
20 Helena Court
Rye Vic. 3941

Stephen Phillipson (CPC)
16 Julia Drive
Bunbury
W.A. 6230

Corey Powell (CPC464)
24 Campbell Street
Shepparton
Vic. 3630

Damian Roy (CPC464)
PO Box 350
Mansfield Vic. 3722

Jason Sefton (CPC464)
RMB 2087 Lancaster Road
Kyabram Vic. 3620

Andrew Shirzad (CPC464)
16 Harkaway Rise
Doncaster East
Vic. 3109

Shane Stevenson (464)
C/o P.O.
Frederickton
N.S.W. 2440

Vasko Stoyanovski (464)
14 William Street
Preston Vic. 3072

Paul Tacey (CPC)
RMB 5134
Shepparton
Vic. 3631

Kenny Thomas (CPC)
35 Doreen Street
Christchurch 7 N.Z.

Daniel Treacy (CPC6128)
25 Kegworth Street
Leichhardt N.S.W. 2040

Craig Westbury (6128/PC)
30 Addison Road
Hove S.A. 5048

Jonathan Maddox (PCW)
7 Wendo Street
Armidale N.S.W. 2350

Reg Wilson (CPC6128)
41 Albury Street
Townsville Qld. 4812

John McNeil (464, PC-20)
1 Hawkins Street
Chatswood Hills Qld. 4127

News Break

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

AMSTRAD AND PERESTROIKA

Amstrad was one of the exhibitors at the recent Comtek '90 show held in Moscow. Amstrad spokesman Martin Hayman said "There is a massive pent-up demand in Eastern European countries for IBM-compatible computers." A modified PC1640 with the keyboard and screen drivers adapted to support the Cyrillic character set was on display.

Another Amstrad representative reported that "Amstrad machines have sold well in Russia via West Berlin. Our PCs would sell in enormous quantities if we accepted roubles." That last point is where the problem lies, as a Russian rouble is not worth much once it leaves the country. Getting any currency (other than the rouble) across the border is a major problem, and 'bartering' and accepting goods instead of cash seems the most likely way of receiving payment. (Pepsi-Cola recently took twenty-four de-commissioned submarines as payment for their drinks).

Some Amstrad computers, notably PCWs from West Germany, are already being used behind the iron curtain - one of which is reportedly being used by politician Boris Yeltsin to write his autobiography.

LOCOSCRIPT2 IN HEBREW

Dr. David Brewer was studying for a PhD in Ancient Rabbinics which required him to print out in Hebrew on his PCW. As there was no character set on the market, he went about designing his own.

He came up with a package which will print all forms of Hebrew consonants and vowel pointing in Near Letter and Draft quality with the characters distributed on the QWERTY keyboard in similar fashion to their English counterparts. The keyboard can also be customised. The new character set can be used from both left to right and right to left, and be mixed with English, Greek and Symbols.

It's currently only available from David in England, and to obtain a copy you must send your LocoScript2 start-of-day disk with £13.95 (plus return postage) to 32 Otter Close, Bar Hill, Cambridge CB3 8EA, England.

You could also ring Dave on 0954 781655 for more details, but remember the time difference. He wouldn't be too happy being woken up in the early hours of the morning.

SPEAK OF THE DEVIL

Uninformed sources in Japan have reported that Tokyo-based Bruderband are close to completing a rival package to the Carmen Sandiego series called "Where in the hell is Carmen Sandiego". The demonic theme, based loosely on Orpheus' search for Eurydice, has upset a number of church members, notably Father Than Ikansi of the Sino-American Persephone Society. "I don't look forward to this release at all," he commented, "and we shall all be hellbent on hoping that it catches a virus and dies." Education authorities are also concerned with the release. A spokesman said "it was a hell of a way to teach kids."

A PR officer for Bruderband, Ms. April Foo, reported that her company would publish the new package "come hell or high water" and saw no reason to with-hold production. She did concede, however, that the inclusion of two black candles with the package (to be lit when playing the game) was probably going too far. "We had to consider the safety aspect, and felt that there was a chance of the candles melting and damaging the disks. We now supply a small bottle of black dye which provides the same effect if applied to domestic white candles." The first export shipments are likely to be despatched on 1st April.

LOCOSCRIPT PC LAUNCH DELAYED

Locomotive Software have always been careful in announcing release dates for their products, and to date have always been on time. So the news that they have re-scheduled the release date for LocoScript PC comes as a surprise.

The product should have been released a month ago, but has now slipped to this month (April). Commercial Director Howard Fisher reported that "Development work on the PC version of LocoScript has taken longer than we originally expected, and as we want to be sure of shipping finished product, we've delayed deliveries by a month. The last thing we want to do is upset the end-user." Mr. Fisher also reports that they have received a massive amount of orders (including blank cheques), so it looks like Locomotive are on another product winner.

PCW owners contemplating a move to IBM compatibles including the Amstrad range of PCs will be pleased to note that there will be a migration-aid to get both LocoScript 1 and LocoScript 2 files on to the PC. It consists of a cable with a printed circuit board contained in a plug at the end. It will take data from the PCWs expansion bus and transfer the information through the parallel port of the PC. An Australian price is not yet available.

GOOD NEWS FOR BUBBLE BOBBLE FANS

When Telecomsoft were in business, they announced that they had the licence from Taito to produce the sequel to Bubble Bobble called Rainbow Islands. Then Telecomsoft was sold to Microprose. Taito was unhappy as they felt they had signed the agreement with Telecomsoft not Microprose. Microprose were unhappy because they claimed the game was ready for release. Months elapsed with haggling behind closed doors, then the announcement came. Ocean got the licence and will shortly be releasing the game.

There is no question that the game will be a huge hit as it is just as addictive as Bubble Bobble and even more cute. Ocean must be smiling.

NEW PCW GAMES FROM CDS

CDS, publishers of Steve Davis' Snooker and Colossus Bridge, have just announced their intention to convert a number of their top selling games to PCW format.

The first three off the rank will be Sporting Triangles, European Soccer League and Tank Attack and should be available in early May (in the UK that is).

NEW FROM PACTRONICS

Pactronics are pleased to announce that they now have stock of Snoopy - the cool computer game for your CPC with your favourite "Peanuts" characters and full of surprises.
Maze Mania - travel with Flippo through the Upper Plain, avoiding aliens and getting lost in inner space. It's a similar to Skweek but being from Hewson, the graphics and programming are superb.
Classix 1 (Collectors Edition) - 3 award winning games that have received comments like -"Wonderful graphics you won't want to miss seeing, never mind playing"; tremendous value!

Games Arcade

► ► ► *You'll find eleven great new releases for the CPC under scrutiny in this months games special.*

GHOULS 'N' GHOSTS
Capcom's long awaited sequel arrives

CPC Disk - $39.95
CPC Tape - $29.95

Back in 1986, Elite launched an arcade conversion that, so the story goes, was voted amongst the top 10 games for that year. The name of that game was Ghosts 'n' Goblins. In this game, Arthur, our hero, is on a quest to rescue a beautiful maiden from the clutches of the evil demonic Overlord. Well, it's now three years later and again he's into the rescue business. The forces of evil are committing dark deeds and they've got the Princess Hus, so without a care for his own safety Arthur has launched himself against these dark forces in an effort to rescue the princess.

Ghouls 'n' Ghosts puts Arthur up against the forces of evil. The game consists of five levels, and you must guide a new look trim, slim Arthur through each level so he can beat the baddies and get the girl. Level One initially takes place in a grave yard, and Arthur (who looks as if he spent the three years since his first adventure enrolled at Jenny Craig and has recently shaved his beard off), clad in magic armour and armed with a magic sword, must work his way across the grave yard, over the hills and up the mountain towards his encounter with the not-so-jolly-green end-of-level giant. Along the way, he must avoid or kill ghouls, whirlwind birds, vultures, guillotines, ogres and skull spitting plants. Also scattered around

• Knock the feathers off those vultures!

the landscape are chests which can contain weapons or evil sorcerers who are intent on turning our hero into... a duck! Some of the ghouls encountered leave behind score bonuses, while others leave additional weapons, ranging from battle axes to razor shields (which look like LP records as they fly across the screen).

If Arthur bumps into a baddie, all is not lost - yet. One bump and it's goodbye armour, hello boxer shorts but he can still carry on, either until the end of the level or until he finds some new armour. Arthur starts the game with three lives, but as he can make two mistakes before he loses a life, I believe that you can say that he has six lives before it's "Game Over". For a limited time, you can avail yourself with the option to continue on with Arthur's quest. This gives you three (or six) more lives and you start from the point you were at, before your unfortunate demise. A good feature that lets you get further into the game, but not always onto the high score table.

Once you have battled and defeated the end-of-level baddie, he drops a key which allows access to the next level. Level Two commences in an open country side, with windmills in the background (real Don Quixote stuff here). Unfortunately, this is about as far as I've got, as the baddies here are like bouncing beetles, who can only be killed if they stop bouncing and they don't do that too often. However, I believe it's more of the same until the inevitable encounter with another end-of-level big baddie. And so on until you rescue the girl, somewhere near the end of Level Five.

Graphically, Ghouls 'n' Ghosts is all right. Gone is the large detailed chubby knight of the original game, and in his place is a smaller, slimmer sprite. The sprite is not as detailed as we've come to expect from

recent releases for the CPC, but is adequate. The sprites for the baddies, however are fairly well detailed, and the background looks good and clear. Animation of the sprites is slightly jerky in some areas, but in others is quite good (especially the ducks waddling). There is no smooth scrolling between screens, rather a jerky screen replacement routine which makes the status line on the top disappear until the new screen is in place. Although this does not take long, it's a nuisance. Each level loads individually from disc, as does the high score table and the replay option. Although this is not a problem on the disc version, I imagine it would be rather tedious for the cassette version of the game.

Sonically, the program contains a good atmosphere title tune, and another different tune for the high score table and replay option. In-game sonics consist of the sound of the sword hitting the baddies, or of Arthur being hit by a baddie.

All in all, Ghouls 'n' Ghosts is not a bad conversion. Not quite as fast as the CPC version of the

original, it is still very playable. It's the type of game that you just have to have one more go at, and try to get just a little bit further. If you liked the original, you will probably like the further adventures of Arthur. If you like just plain baddie bashing, then this is okay. Can you defeat the forces of evil and help Arthur get his girl? If you think you can,

• Watch the headless guy.

give Ghouls 'n' Ghosts a try. It's an enjoyable programme which, although difficult, offers that little bit of incentive to encourage you to give it another go.
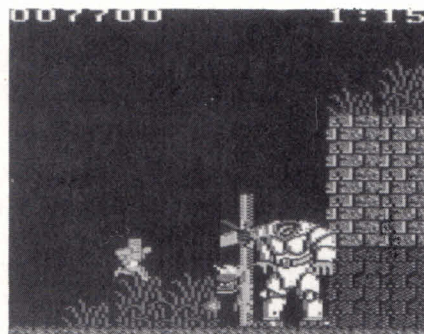
FIGHTING SOCCER
Activision's latest sports sim

CPC Disk - $39.95
CPC Tape - $29.95

There are a great number of soccer games available for the home computer at present. Big names from U.K. soccer (like Emlyn Hughes, Paul Gascoigne and Gary Lineker) have endorsed computer games, and famous clubs (Liverpool and Manchester United) have now entered the field of play. Other games have been launched without endorsements, such as Matchday and Matchday II from Ocean, and those simulation specialists at Microprose have even added to the different games available with their big bit Microprose Soccer. The future looks even better for the lover of soccer games with Anco about to launch their mega-16 bit hit, Kick Off, as well as the game developed as an extension of this, Player Manager for the CPC. It's into this flooded field that Activision have endeavoured to score a winning goal with Fighting Soccer.

Fighting Soccer is a one or two player game that was converted from an arcade game. In this game, you take the role of the United Kingdom, and the aim is to win the Olympic final. To do this, you must first play a preliminary match against Japan, then it's into the final ten to try to reach for that gold medal. The other teams in the race for gold are Brazil (your first opponent), West Germany, France, South Korea, Argentina, the U.S.A. (????), the U.S.S.R., Algeria and Spain. As expected, each team is a little harder to defeat, and the team you meet in the final (I met Argentina) is the toughest.

Once the program is loaded, you are presented with an introduction screen which is a reasonable copy of the box cover artwork. From there, you go to a couple of graphics of soccer players (you should see the way the player curves the ball past the keeper - it has to be seen to be believed) and the top player

chart. This is not measured as a score like most games do, but rather measures the round the player reached (preliminary matches do not count). If you are just starting the game, then you go into the match against Japan. Play is viewed from overhead, with the game window occupying the left three quarters of the screen. The remainder of the screen is taken with the status panel, which contains score, time remaining and an overall view of the pitch with a small window showing where the game window is in relation to the goals.

As in all soccer games, you run in all directions, kick, slide, tackle and head the ball. The heading aspect is well done, with the player appearing to come up at the screen and you can see him try to head the ball in a specific direction. The computer chooses which of your players you control by deciding which is closest to the ball, but at times this choice is confusing, especially when there are a number of players around the ball. The player you control is indicated by a large arrow, which also indicates the direction he will move, kick etc (as if you couldn't tell just from looking at him). The referee appears on the screen when required (e.g. to signal a goal or signal a foul) in a separate window, similar to the way Codemaster have done it in their Four Soccer Simulator. The draw for the race for gold shows the national flags of the competitors with a line diagram showing the route winners take towards the final championship match.

Fighting Soccer differs from other soccer games. It's all about the Olympics, rather than the World Cup or English league soccer. There is one period of play, and this is only three minutes long. If after the

games reviews

end of that time the score is a draw, there is an extra time option that you can elect to take (although in the championship match I played against Argentina, there was no extra-time, even though the score was a nil all draw). And really, that's about all there is in Fighting Soccer. Although it is graphically okay, there is a satisfactory tune which plays during the game (and can be turned off if required), and the sonics consist of the standard soccer type sounds, the program just doesn't offer very much more. You can't alter the match length or the gameplay. I don't know if this lack of depth is caused by the fact that the original arcade game (Which i haven't seen) is similarly shallow but, Activision have certainly missed the mark with this one. There is just not enough depth in Fighting Soccer to keep even the casual soccer fan entertained for very long, and I think that the first time player will leave it alone after a few

minutes. Added to the lack of depth is the confusing control system which, as I mentioned before, makes it hard to figure out which player you are controlling. The lack of a second period of play is a big drawback. Almost everybody knows that there are two halves to a soccer game, although Activision doesn't appear to.

I don't think Fighting Soccer will do very well in the sale charts. There are just too many good soccer games on the market at the moment to allow room for one with as limited gameplay as Fighting Soccer to score. If you want a good soccer game, get either Microprose Soccer or Emlyn Hughes International Soccer, or wait to see how the CPC conversion of Kick Off turns out, but I wouldn't recommend Fighting Soccer as a contender for the title of best soccer game available for the CPC.

HARD DRIVIN'
Atari's revolutionary driving simulator

CPC Disk - $39.95
CPC Tape - $29.95

Atari proudly states their highly successful coin-op as "The ultimate driving simulator that leaves all other driving games behind." What modesty!

Personally, I think the game deserves merit for its originality and realism rather than this "hard man" image Atari have been trying to sell us.

The game takes place over a large circuit divided into a speed track and a stunt track. The stunt track is a real beaut as it takes you over a raised drawbridge, a stomach churning vertical loop and various other bumps and jumps, while the former is a foot to the floor dash to the finish line which also has its merits providing you don't go spinning off into oblivion.

The graphics are all in solid, 3D polygons which have never been used in a coin-op before and are Hard Drivin's main reason for success, giving the game an extraordinarily realistic feel which I believe cannot be conveyed in the usual "expanding sprite" form we are all used to.

Before starting the game, you have a choice of

gearbox (manual or automatic) and which side of the road you would like to drive on (both!).

Once running, you are presented with a "behind the wheel" view of the oncoming track with full instrumentation occupying the lower third of the screen. Tracks are selected by simply taking the appropriate turnoff (I told you this game was realistic!).

If you think all this is more than enough to keep you occupied, there are other hard driver's out on the circuit to hamper your progress ranging from 140 mph daredevils like yourself to slow awkward semi-trailers which are the last thing you want to see when approaching a jump or tight corner.

If you fail to negotiate an obstacle or slam into another car or nearby building, an aerial "instant replay" is shown of your misfortune. It's hard to keep a straight face when watching your car sail gracefully
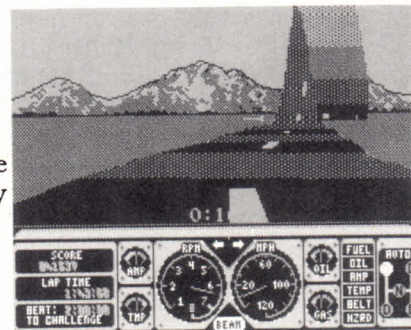
• Here comes the loop.
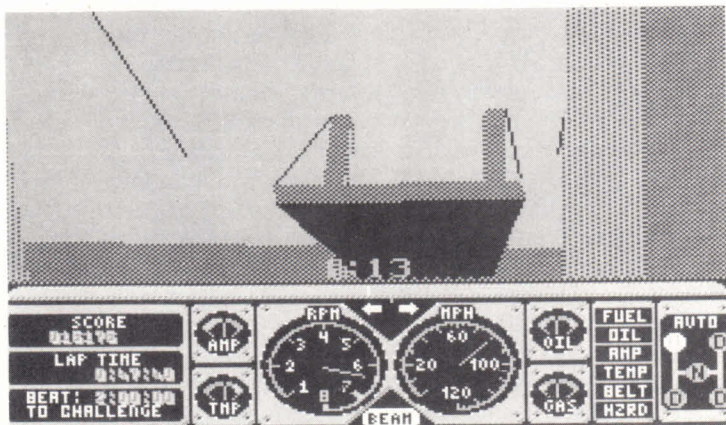
• Oops!

• Crossing the bridge jump is a difficult stunt.

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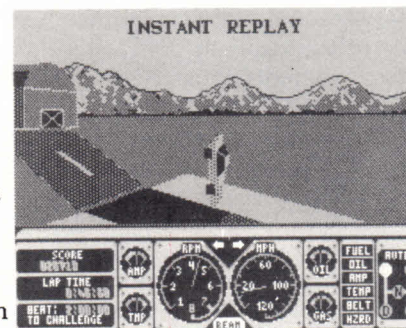
over a jump into an oncoming truck!

The track chosen must be completed in a strict time limit which can be extended when reaching an allotted checkpoint. Run out of time and it's game over but complete the track in record time and you get to drive the "Phantom Photon", a real mean Ferrari Testarossa which is for only the hardest of hard drivers.

So how does all this look on the CPC? Well the graphics are a simple blue on black but surprisingly fast for an 8 bit, while sound is dull with effects consisting of not much more than a thin buzz which surpasses for an engine firing into life.

Control is also difficult to say the least. Squealing sideways round corners was great fun on the coin-op but a joystick is no substitute for a steering wheel especially in this case when precise control is needed.

But let's not be too critical because converting a game like this is no mean feat and basically everything's here, the track is an arcade-perfect copy right down to the last road sign and after some practise, there is a lot of fun to be had. But overall I would recommend this to the more serious driving fan as the less patient of us will find progress quite tedious. Give it a try.

CHASE HQ
Let's go Mr. Driver!

CPC Disk - $44.95
CPC Tape - $29.95

Now this is more like it! Tatio's Chase HQ is a blisteringly fast coin-op thriller that provides more than just the average "race against time" format. The game involves two undercover cops straight out of the Miami Vice school of law enforcement tracking down dopers, pushers and all those other stereotype TV criminals.

On starting the game you are presented with a message from Chase Headquarters giving you a description of the latest felon and his set of wheels, then it's into your black Porche and off in hot pursuit! At first you have a sixty second time limit to intercept the wanted culprit which isn't easy as they only drive the fastest sportscars they can buy (or steal!). Catch up in time and your police siren signals an extra sixty seconds to arrest the felon. They're pretty desperate guys and don't take to kindly to police matters so the only way to stop them is to ram them off the road!

This is easier said than done as just keeping up with them is hard work, but luckily you have the aid of a turbo boost which can be used just three times. Press this and you'll be tailgating them in no time.

Once you have sufficiently rammed the felons car in the allotted time limit, it will career off the road in flames, then after your successful arrest it's off to the next level to persue tougher criminals in faster cars. Run out of time and its back to your desk job.

During the game you will barrel through city streets, highways, busy tunnels and the roughest of dirt tracks receiving regular updates from Chase Headquarters and Airborne Patrol on the whereabouts of our wanted criminals.

Overall the game is great! All the coin-op action has been conveyed to the CPC well. The graphics are detailed and colourful and the road rushes forward at a satisfactory pace with all manner of scenery and cars getting in your way. Sound is good too with some varied effects accompanying the on-screen action. Beg, borrow, but please don't steal for this one!

Screen-shots from coin-op version.

POWERDRIFT
Awesome buggy fun in this Ocean conversion

CPC Disk - $39.95
CPC Tape - $29.95

Sega, the Stock, Aitken+Waterman of video games, released this hydraulic supergame early last year and it makes perfect coin-op conversion material. The game is an exhilarating buggy race over 25 tracks on 5 different circuit locations. Actually it's more like a roller coaster ride than a race, let me explain.
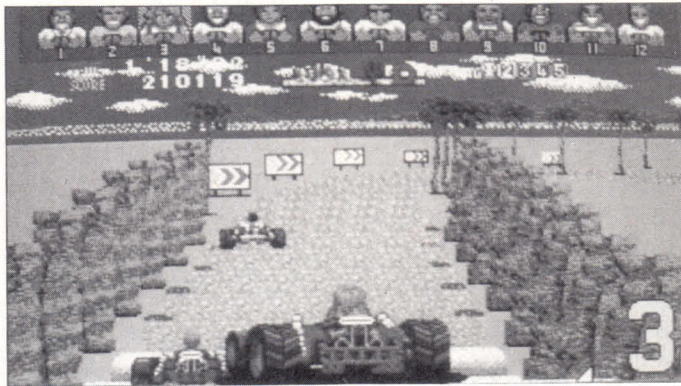
After selecting your driver (which there are quite a few), you are placed down on the starting grid. Wait for the green light and, with the rev of an engine, you're off! Oddly enough, there is no time limit for each track. To qualify for the next race you must fight your way through the twelve other drivers and finish in one of the top three positions, first preferably.

The tracks really are outrageous. Ranging from concrete and steel girders to wooden planks, they swing wildly from left to right and suddenly sway off into mid-air providing a pretty awesome ride as fans of the coin-op would know. Control is fairly easy as it uses the standard joystick-fire to change gear pattern used in most games of this type and your super-charged buggy sticks to the road like glue, making competition that more enjoyable.

The colourful, cartoon style graphics of the coin-op have been converted to the CPC with no trouble at all, including the weird looking buggies and their equally strange drivers. Sound is also good with a competent title track and ok buggy noises. Good racing games should have speed, accuracy and a good sense of competition. Powerdrift has this plus plenty of other neat touches which makes it a good buy in anyone's language!

* Screen-shot from arcade version.

TURBO OUT RUN
The red Ferrari is back!

CPC Disk - $39.95
CPC Tape - $29.95

Unless you're some remote island villager, chances are you've heard of a Sega coin-op called "Outrun". Sound familiar? Of course it does!

When you get a coin-op as successful as Outrun, you make a sequel. Sega did just this and gave it the staggeringly original name of "Turbo Outrun".

As with it's predecessor, Turbo Outrun is a tyre torturing race across the United States, passing through 16 major cities from the streets of New York to the palm-laden avenues of LA. All the characters from the original are here including souped up sports cars, pestering volkswagons, aggravated police cars, big rig's and that dreaded yuppie in the silver porche!

This time you are armed with a shiny new Ferrari F40 with the mandatory Californian type blonde at your side. Race well and you can upgrade your car with hi-grip tyres, supercharged engine and a high volume turbo which constantly overheats. The usual time limit applies so you must keep your foot to the floor and your eyes open when travelling through the various stages.

I really have mixed feelings about this conversion. The original CPC Outrun was pretty ordinary and although this is an improvement, it still doesn't prove to be very enjoyable. In converting this, US Gold have obviously chosen graphics over playability as a main benefit giving us a very pretty, but slow and sonically dull game which is overshadowed by the better crop of recent CPC releases of this type. For hardened Outrun fans only.
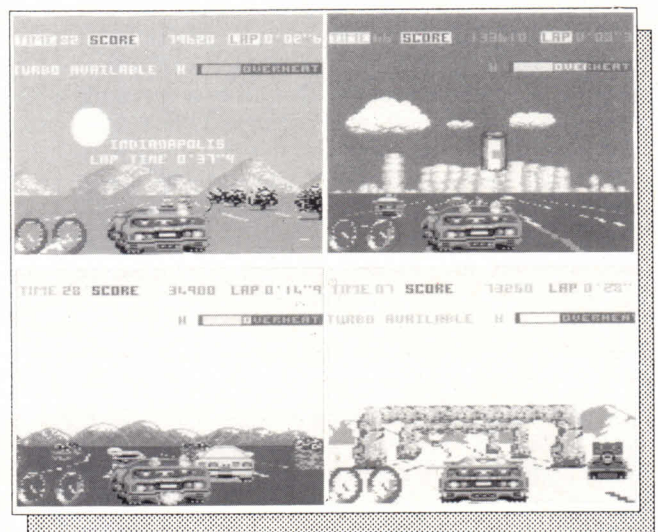
OPERATION THUNDERBOLT
The spectacular sequel to "Operation Wolf"

CPC Disk - $44.95
CPC Tape - $29.95

The Hi-jack report came from a DC10 leaving Paris for Boston. Arab Guerillas were in control of flight 102 and had turned the aircraft towards Africa. The plane lands in hostile territory and the terrorists begin their demands. A rescue operation is called for and there is only one man to head it up. Roy Adams, Good luck on your mission!
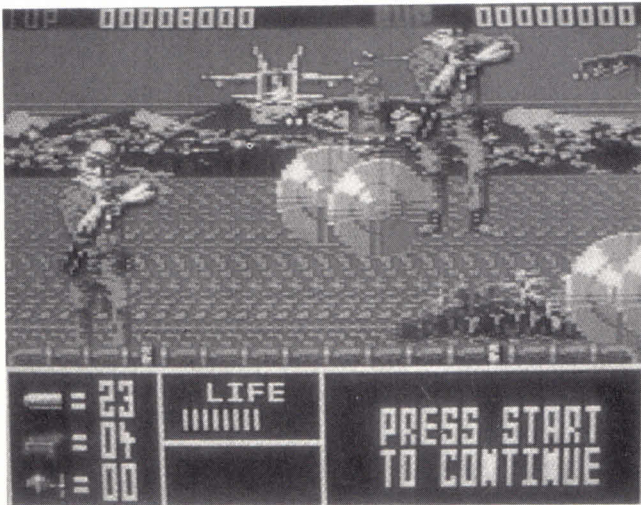
The Tatio coin-op, Operation Thunderbolt was a huge hit in the arcades as was it's predecessor Operation Wolf. Both were noted for their menacing Uzi machine guns mounted on the console which proved irresistible to the average passer by.

The game puts you in the role of Roy Adams, who with the exemption of nuclear weapons, must be the most destructive force known to man!

The mission involves you moving on foot, by jeep and by boat through eight levels to eventually reach the hi-jacked plane where you must rescue the pilot and fly home safely with the surviving hostages.

Progress is far from easy. Along the way you will encounter endless hordes of Arab terrorists, Guerrillas and gun-toting mercenaries leaping in front of you by the dozen, only to be blown away in a shower of bullets and grenades. The more challenging adversaries are tanks, missile launchers, helicopters and dive-bombing F-14 fighters all hell-bent on your destruction!

Occasionally you will come across a group of imprisioned hostages who can be freed by shooting the locks of their cell doors, being careful not to dispose of them in them in the process. Extra equipment such as ammunition, grenades, lazer sights and medical packs can be collected along the way by simply shooting them on sight when they drop down the screen.

Your "lives" are also very interesting. The game works on a credit-continue system where the better you play, the less credits you get and so on. There is also a much boasted two player option where you and a friend can both join the slaughter making things a little easier.

All this action is displayed in glorious 3D, scrolling forward or sideways depending on the level, and I can safely say that the graphics and presentation are the closest thing to a coin-op that I have ever seen on an Amstrad. The screen is packed with colour and the detail of the enemy soldiers and installations are superb. Unfortunately, the sound only consists of some weak explosions and an average title tune but it really does not lower the standard of the game in any way.
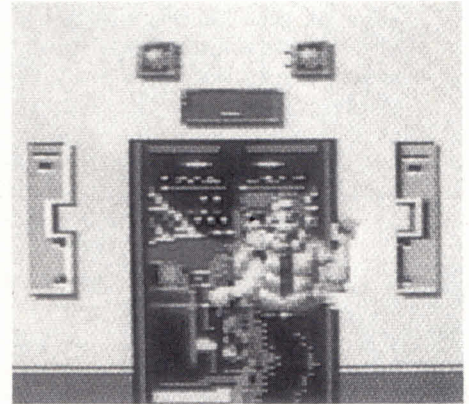
My only complaint is the control method. Your machine gun fire is guided by a tiny on-screen cursor which at times, is impossible to see making progress very difficult to say the least.

But overall the game is great. The action is incredibly fast and sickeningly violent which might offend some people, but if this sort of thing pleases you then dont hesitate to try your hand at Operation Thunderbolt today!
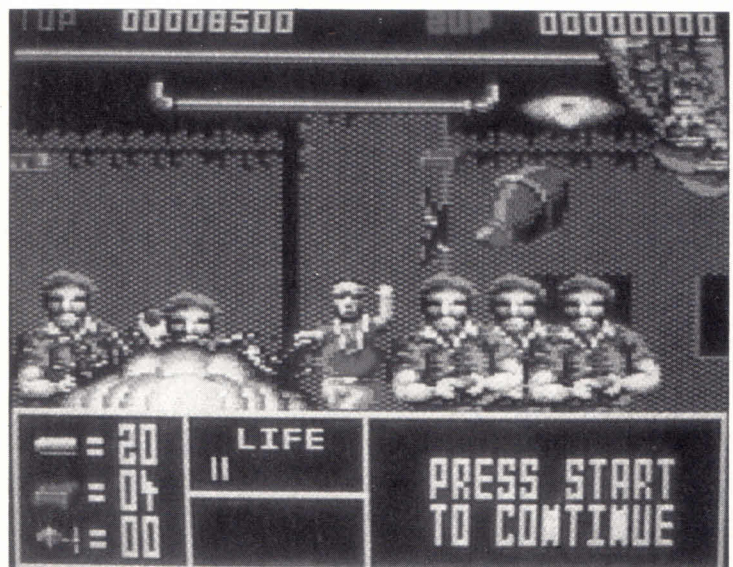
ALIEN SYNDROME
Sega's alien horror game makes it to the CPC

CPC Disk - $24.95

It probably started something like this. An all stations call was put out by the authorities:

"Alien hordes have taken over our seven spaceships and are holding the crews hostage. We need some all time heroes, who are afraid of nothing, who like an old fashioned bug hunt, and have the courage to face the unknown in order to rescue the hostages. If interested, call earth, channel 'hero.' Make it quick."

Somewhere in deep space, two heroes hear this plea, and report for duty. Rick and Mary (plain people) are briefed on their mission. They are to boldly go where no other person will and rescue their colleagues from the aliens, and kill as many of them as they can along the way.

That's what Alien Syndrome is all about. From here, it's a one or two player arcade adventure, which takes place over seven levels. At the end of each level, there is an end of level (EOL) alien, which is bigger and more difficult to kill than the others. On the first level, the run of the mill aliens look like orange and white maggots, and the EOL alien is a big, slimy two-headed maggot. The hostages are scattered around each level, and these are rescued by moving over them.
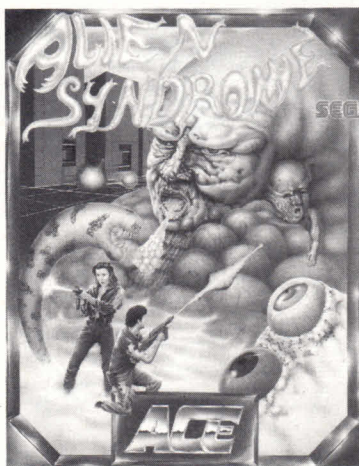
Alien Syndrome is a game much in the same style as Gauntlet. Your character is seen from overhead, and the screen scrolls smoothly as the player moves to the edge. As with Gauntlet, when playing in the two player mode, one character cannot move out of the current screen without the other accompanying him. Each player starts with four lives and a limited amount of time to complete the level (there is ample time to do this; the only main obstacle to completion of a level are the aliens). There are 11 hostages to rescue and the number remaining is shown on the bottom of the screen. Once you have rescued all the hostages, a message tells you to get to the exit, and once through that, you encounter the EOL alien. Destroy him and it's off to the next level for more of the same.

Your character starts the game with a poor weapon which has a very limited range. Not to worry, as scattered around in wall panels are more powerful weapons, such as a flame thrower, bombs, fire balls and a powerful laser (the best to get). Also in other panels are life bonuses, and these come in very handy, especially when you are just starting out. To enable you to find your way around the spaceship, there is a map which will appear when you access the map panel, also on the wall, and the position of the hostages are shown on the map. This enables you to plan your path of attack and is essential to completing the level.

Graphically, Alien Syndrome is quite good. The programmers have opted to mode 1 graphics, rather to the more colourful mode 0. Although this limits them to four colours, it enables them to produce more detailed graphics, and they have done this very well. All the graphics are clear and easy to see, although on level two, the choice of blue as a background colour means that you have to look closely to see where your shots are going. The sound effects in the game are good, with an eerie tune playing in the background as well as the spot effects for weapons and foot steps. If I have a complaint at all with the way the game has been programmed, it would be that the collision detector appears to be slightly off, which doesn't provide a problem in level as the majority of the space is open, but becomes a bit of an annoyance in level two where the going becomes more confined.

Alien Syndrome is not an easy game to play at first, but after a while, as you get to know the layout of the spaceship, and where the hostages are, it becomes easier. To complete the initial levels, all you need to do is get a better weapon, preferably the laser, plan your route and weave from side to side in the direction you want to go and you should have no trouble completing the level. Sounds easy doesn't it? Well, it takes a little practice to get it right. For those out there who are lucky enough to have bought a Megadeath 1 unit from The Amstrad User, and who have an auto-fire joystick, it will simply be a matter of moving your character, but for the rest it's continual pressure on the fire button, resulting in a tired arm. The two player game can be played on keyboard or, if you have a joystick splitter, both players can use joystick.

All in all, Alien Syndrome is not a bad first up release from Ace. The game was originally released in 1988 in the U.K. but it is only just reaching us here in Australia. This is a pity really, as it is a good game, with good quality graphics and sound. It's a pity that we haven't had a chance to see this game earlier, as it now has to compete with great games, such as Batman the Movie, Power Drift, Ghostbusters II and Chase HQ. In the days of its first release, Alien Syndrome was considered by many as great. Now, however, it still is a good game, when assessed against the competition, and is well worth a close look.

SHORT 'n' SWEET
A brief look at three new compilations

STAR WARS TRILOGY
CPC: Disk $39.95 - Tape $29.95

You've got the trilogy on video, now buy the games courtesy of Domark.

Join the adventures of Luke Skywalker, Han Solo and friends in their eternal struggle against the Imperial forces. As you can guess, all three games, like the arcade classics, follow their screen counterparts closely.

Star Wars and The Empire Strikes Back were noted for their impressive 3D vector graphics, while Return of the Jedi is a colourful scrolling shoot-em-up. I was quite impressed with the CPC conversions of these games, being the best of the 8 bit versions available and even though you've probably got one of these already, this compilation offers hours of gaming fun.

COIN-OP HITS
CPC: Disk $49.95 - Tape $39.95

Coin-op Hits is a new compilation which offers some of the most popular CPC conversions to grace our screens of late.

OUT RUN - Sega's Ferrari thrashing race across the USA was a runaway hit on all formats, and deservidely so.

SPY HUNTER - The legendary road burning, enemy trashing cult game from Bally-Midway, still looks as good as the day it was released.

THUNDER BLADE - Take control of an advanced helicopter gunship and blow away hordes of enemy tanks and aircraft in this thrilling conversion of the huge Sega coin-op.

ROAD BLASTERS - Brave hazardous highways and the heavily armed cars that roam them in a post-nuclear world.

BIONIC COMMANDO - Swing into action with your bionic arm as you leap, run and climb through five hazardous levels in this entertaining conversion.

MEGA MIX
CPC: Tape $39.95

Yes, here's another new compilation offering more hit games of recent times.

OPERATION WOLF - The coin-op voted "Best game of 1987" was a huge hit in the arcades and Amstrad owners were blessed with the best conversion of all showing us just what CPC is capable of.

THE REAL GHOSTBUSTERS - An amusing, spook filled romp which is based on the cartoon series rather then the movies.

BARBARIAN II - A top quality, action packed game where you battle against evil hordes in the dungeons of Drax. A game that would make Arnold Schwarzenegger proud.

DRAGON NINJA - Hectic street violence where you become a "bad dude" and take on underground forces in the back alleys of Metropolis.

CPC Database, part two

CPCDBASE is a fast and easy to operate database that will certainly give commercial programs a run for their money.

For those of you who missed part one of the listing in out last issue, CPCDBASE is like a card index with up to 200 files where you can store any sort of information. A simple example would be names and addresses, with telephone numbers and birthdays. Each card is known as a record, and on each record are several fields of information.

On running CPCDBASE, you are presented with the main menu. From here you can choose to enter information for a field or record, you can sort a file into order, save, load of edit a file - or, of course, exit from the program.

If you choose "field entry", the program will request a title followed by the label for your first field. After each entry (maximum nine), you are given the option either to add another field or return to the main menu. After setting up your fields, you will need to fill in the individual data for each.

Listing or ordering your records couldn't be simpler. There are options to list all records in full, list certain fields of records, search through the file or even sort your field entries into any order desired.

CPCDBASE is a genuinely useful program that should be more than adequate for home uses. Part one of the listing is available in the March edition of The Amstrad User.

```
1910 OPENOUT("!Extras")
1920 PRINT#9,title$:PRINT#9,field:PRINT#9,rec:CLOSEOUT
1930 OPENOUT("!Fields")
1940 FOR g=1 TO field:PRINT#9,field$(g):NEXT:CLOSEOUT
1950 OPENOUT("!Records"):FOR g=1 TO rec:FOR h=1 TO fiel
d:PRINT#9,rec$(g,h):NEXT:NEXT:CLOSEOUT
1960 OPENOUT ("!PRESS ESC NOW."):PRINT#9,"!":CLOSEOUT
1970 PRINT:PRINT "File has now been saved. ""Would you
""like to verify? (Y/N)"
1980 WHILE INKEY$<>"":WEND
1990 a="":WHILE a<>"Y"AND a<>"N":a=UPPER$(INKEY$):WEND
2000 IF a="N"THEN GOTO 60
2010 PRINT:PRINT"Rewind tape and press play. If a read
  error occurs, then either rewind tape,orpress ESC twi
```

```
ce and re-record. Press ESCtwice on seeing "CHR$(34)"PR
ESS ESC NOW"CHR$(34)".
2020 KEY DEF 66,1,252,252,252:ON BREAK GOSUB 2040:CAT:O
N BREAK GOSUB 2910:KEY DEF 66,1,32,32,32
2030 GOTO 60
2040 RETURN
2050 '
2060 '                    *** (5B) SAVE FIELDS ALONE
***
2070 CLS:PRINT"Press play and record on the tape, ""and
 ""then press the ENTER key."
2080 WHILE INKEY$<>"":WEND:WHILE INKEY$<>CHR$(13):WEND:
PRINT:PRINT"SAVING FIELDS."
2090 OPENOUT("!Extras")
2100 PRINT#9,title$:PRINT#9,field:PRINT#9,rec:CLOSEOUT
2110 OPENOUT("!Fields")
2120 FOR g=1 TO field:PRINT#9,field$(g):NEXT:CLOSEOUT
2130 OPENOUT("!PRESS ESC NOW."):PRINT#9,"!":CLOSEOUT
2140 PRINT:PRINT "Fields have now been saved. ""Would y
ou ""like to verify? (Y/N)"
2150 WHILE INKEY$<>"":WEND
2160 a="":WHILE a<>"Y"AND a<>"N":a=UPPER$(INKEY$):WEND
2170 IF a="N"THEN 60
2180 PRINT:PRINT"Rewind tape and press play. If a read
  error occurs, then either rewind tape,orpress ESC twi
ce and re-record. Press ESCtwice on seeing "CHR$(34)"PR
ESS ESC NOW"CHR$(34)".
2190 KEY DEF 66,1,252,252,252:ON BREAK GOSUB 2040:CAT:O
N BREAK GOSUB 2910:KEY DEF 66,1,32,32,32
2200 GOTO 60
2210 '
2220 '                    *** (6) LOAD FILE/FIELDS ON
LY ***
2230 CLS:PRINT#1,"LOAD FILE/FIELDS ONLY MODE"
2240 PRINT"Select from:":PRINT:PRINT:PRINT"(1) Load who
le file  ":PRINT:PRINT"(2) Load fields only"
2250 WHILE INKEY$<>"":WEND
2260 a="":WHILE a<>"1"AND a<>"2":a=UPPER$(INKEY$):WEND
2270 PRINT:PRINT:PRINT
```

```
2280 IF a="2" THEN 2480
2290 '
2300 '                      *** (6A) LOAD WHOLE FILE **
*
2310 CLEAR:DEFSTR a,z:field1=9:DIM z(5)
2320 LINE INPUT"Enter name of file to be loaded, or
     press ENTER alone to load the first filefound: ",a1
2330 IF LEN(A1)>20 THEN PRINT"NAME TOO LONG.":GOTO 2320
     ELSE a1=UPPER$(a1)
2340 CLS:PRINT"Press play on tape, then press ENTER.":W
HILE INKEY$<>"":WEND:WHILE INKEY$<>CHR$(13):WEND
2350 PRINT:PRINT:PRINT"SEARCHING FOR ";:IF a1<>""THEN P
RINT a1"."ELSE PRINT"UNKNOWN FILE."
2360 LOCATE 1,18:PRINT"If a read error occurs, rewind t
ape and press play, or press ESC, and then type GOTO 60
<ENTER>.":LOCATE 1,7
2370 ON BREAK GOSUB 2460
2380 OPENIN("!Extras"):GOSUB 2470:LINE INPUT#9,title$:P
RINT"FOUND "title$;:IF title$<>a1 AND a1<>""THEN PRINT:
CLOSEIN:GOTO 2380 ELSE PRINT"-LOADING."
2390 INPUT#9,field:INPUT#9,rec:DIM field$(field):st1=1:
num=INT(FRE(0)/(field*30)):DIM rec$(num,field):st=1
2400 CLOSEIN:OPENIN("!fields"):GOSUB 2470
2410 FOR g=1 TO field:LINE INPUT#9,field$(g):NEXT:CLOSE
IN
2420 OPENIN("!Records"):GOSUB 2470
2430 FOR g=1 TO rec:FOR h=1 TO field:LINE INPUT#9,rec$(
g,h):NEXT:NEXT:CLOSEIN
2440 field1=field
2450 ON BREAK STOP:CLS:GOTO 100
2460 flag=1:RETURN
2470 IF flag=1 GOTO 2450 ELSE RETURN
2480 '                      *** (6B) LOAD FIELDS ONLY *
**
2490 LINE INPUT"Enter name of fields to be loaded, or
     press ENTER alone to load the first filefound: ",a1
2500 IF LEN(a1)>20 THEN PRINT"NAME TOO LONG.":GOTO 2490
     ELSE a1=UPPER$(a1)
2510 CLS:PRINT"Press play on tape, then press ENTER.":W
HILE INKEY$<>"":WEND:WHILE INKEY$<>CHR$(13):WEND
2520 PRINT:PRINT:PRINT"SEARCHING FOR ";:IF a1<>""THEN P
RINT a1"."ELSE PRINT"UNKNOWN FIELDS."
2530 LOCATE 1,18:PRINT"If a read error occurs, rewind t
ape and press play, or press ESC, and then type GOTO 60
<ENTER>.":LOCATE 1,7
2540 ON BREAK GOSUB 2460
2550 OPENIN("!Extras"):GOSUB 2470:LINE INPUT#9,title$:P
RINT"FOUND "title$;:IF title$<>a1 AND a1<>""THEN PRINT:
CLOSEIN:GOTO 2550 ELSE PRINT"-LOADING FIELDS."
2560 INPUT#9,field:INPUT#9,dummy:num=INT(FRE(0)/(field*
30))
2570 CLOSEIN:OPENIN("!fields"):GOSUB 2470
2580 IF field1>field THEN FIELD2=FIELD ELSE FIELD2=FIEL
D1
2590 FOR G=1 TO FIELD2
2600 IF field1<field THEN field=field1
2610 LINE INPUT#9,field$(g):NEXT:CLOSEIN
2620 num=INT(FRE(0)/(field*30))
2630 IF rec=0 THEN DIM rec$(num,field):st=1
2640 ON BREAK STOP:CLS:GOTO 100
2650 '                      *** (7) ERASE FILE ***
2660 CLS:PRINT"Are you sure?  (Y/N)"
2670 WHILE INKEY$<>"":WEND
2680 a="":WHILE a<>"Y"AND a<>"N":a=UPPER$(INKEY$):WEND
2690 IF a="N"THEN CLS:GOTO 100
2700 FOR g=1 TO 1500:NEXT:PRINT:PRINT:PRINT"File has be
en erased.":FOR g=1 TO 1500:NEXT:RUN
2710 '                      *** (8) EXIT PROGRAM ***
2720 CLS:PRINT"Are you sure?  (Y/N)"
2730 WHILE INKEY$<>"":WEND
2740 a="":WHILE a<>"Y"AND a<>"N":a=UPPER$(INKEY$):WEND
2750 IF a="N"THEN CLS:GOTO 100
2760 CALL 0
2770 END
2780 ''
2790 '                      *** WAIT FOR ENTER KEY ***
2800 PRINT#2,"      PRESS ENTER TO RETURN TO MENU"
2810 WHILE INKEY$<>"":WEND
2820 a="":WHILE a<>CHR$(13):a=INKEY$:WEND
2830 GOTO 580
2840 '
2850 '                      *** GREEN SCREEN ROUTINE ***
2860 PRINT:PRINT:PRINT:PRINT" Are you using Green scree
n or Colour?              (G/C)"
2870 WHILE INKEY$<>"":WEND
2880 a="":WHILE a<>"G"AND a<>"C":a=UPPER$(INKEY$):WEND
2890 IF a="G"THEN POKE 43901,238 ELSE POKE 43901,237
2900 CLS:RETURN
2910 RETURN
```

It doesn't work?

When listings don't work, it is frustrating. Here are some tips that might help.

The best thing to do is split up long lines; one line for one command. The listing may double in length, but you'll get a much better picture of what's going on.

Confusing the letters o or O with the numeral 0, or the small letter l or capital I with the number 1. We do ask authors to avoid using these letters as variables.

Confusing a colon (:) with a semicolon (;).

DATA statements are particular traps for the unwary, because a blunder in one of these will cause an error message when the computer attempts to execute some other line.

Don't spend hours on a listing that won't work. Perhaps later, or even the next day, chances are the mistake will stick out like a sore thumb.

A hard day's night

Joseph Elkhorne provides some practical tips on transferring files and some advice for future hard disc owners.

Well, gentle reader, the past month has been taken up with various housekeeping tasks involved in running two computers. The first challenge, of course, was where to put the flaming things!

My solution was to relegate the second-hand, four-drawer filing cabinet to the garage, and buy a three-drawer one, which is a reasonable working height. The 6128 sits on top of it. This task provided me with the opportunity to go through several years' worth of paper files and discard a lot of rubbish.

The PC20, monitor, printer and modem take place of honour on the desk. Firstly, I knew I'd need to transfer a lot of files from the 6128, for reference use on the PC20.

A null modem cable between the two machines completed the link, and is disconnected when not needed. Although it is possible to transfer files between two machines without either requiring a communications program, the latter makes life easier. I used x-modem protocol and moved dozens of files between the two machines without mishap.

Only once or twice was a transfer unsuccessful - in both cases, the transmission did not start. A re-try on each succeeded without mishap.

The first drawback in overall operation made itself known quickly enough: only one drive on the PC20. This meant re-copying files in the DOS environment to get them on the appropriate discs. Granted, it is possible to go from source machine to target disc in one hit - but requires a slower and methodical approach.

You'd have to tell the PC20 comms program of the disc/directory change for the various options you require - and still one needs to physically move between the two keyboards to initiate the transfer. Or, one could hire a personal assistant... I need a girl Friday.

I elected to apply Occam's Razor and did straightforward machine-to-machine exchanges. Then sat at the PC20 for the final bout of disc organising.

A couple of evenings sufficed for this task, less than I had anticipated for over 3 years' worth of computer files.

Several Public Domain programs I'd acquired for use at 'day jobs' needed to be converted from 5.25" format to the much more convenient 3.5". Along about the third evening, I experienced my first real disaster. Working with PC-Write, I had set up a "B:" working disc, complete with the COMMAND.COM DOS file.

In the midst of a heavy editing session, I'd swapped discs, tried to shell to DOS for a directory check (what was that filename)? The cursor moved to the right-hand upper corner and refused to respond to the keyboard. Ctrl-Alt-Del gave me control of the machine again....at the expense of a wrecked directory.

The root directory seemed OK. It was only when I moved to a sub-directory that I found several thousand bytes of Tradewars information appearing at a DIR request. Grrr!

Inspecting individual files confirmed my fears — they were trashed! Now, I could have used the DOS program, CHKDSK to identify 'bad' sectors, and RE-COVER to try and retrieve something from the disaster.

Of course, I didn't have a backup. (Naughty)! Rather than spend the time on a possibly fruitless task, I knew I could retrieve the information with a couple more log-ons.

The books recommends that RECOVER is only used by experts in the most extreme situations.

I have no idea why the system bombed. Maybe the trick of 'two drives in one' and the PC-Write conflicted. I continued editing on one disc, without resorting to forced "B:" changes, without mishap.

At this point, an obvious decision was made to buy a second drive. The idea of the outboard 5.25" seemed an economical move. Although it had the advantage of accessing cheap PD discs, going to the 360K format seemed a step backward.

Then I heard about a possible source for something MUCH

better. Two telephone calls gave me the information that I could get a 40 meg. hardcard for a price that would make a Scotsman cheer!

Amstrad's book mentions the use of a hardcard. I laid out cash the following day, could hardly wait to get home in the evening to try the beast out.

To make a long story short, it didn't work.

Well possibly I'd done something wrong. The manual is a bit dodgy in several areas, as well as requiring you to flip between three different sections to try and figure out what they're talking about.

Rather than re-invent the wheel, I called on the friendly folk at The Amstrad User retail shop. Tim and Shane were very helpful. We quickly proved that the hardcard itself was 100% by slotting it into a 1512. A quick inspection showed the hardcard was fully functional and set up as two 20 meg drives. [DOS has a 31 meg. limit.]

We surmised that the problem in the PC20 was one of power - a voltage drop at the expansion buss could cause this problem. I'd done a DEVICE when I first tried the hardcard and the message indicated the C: drive existed.

This meant that the controller, at least, was recognised by the system.

A call to the Amstrad support people revealed the information that the brand I'd bought was a recommended type. They'd tested this set up last year and found it to be reliable.

I was all set to make up a kludge cable to pick up power at the external connector for the floppy drive, to prove the voltage drop theory. Whilst inspecting the hardcard for access to the power cables, I discovered the flying lead between controller portion and hard drive itself was not properly seated. One poke with a screwdriver fixed it firmly in place.

Placing the unit in the PC20 again, I was rewarded with the quiet whirr of one disc unit - but it wouldn't boot up.

The A: drive boot-up allowed me to change over and inspect both C: and D: directories. According to what I saw, DOS was on this pre formatted disc - along with Xtree, and some help files.

(I'd wondered why there was an Xtree manual in the box)!

Microsoft need not fear piracy. I used the provided Xtree to inspect both C: and D: drives. The 'hidden' files did not exist, and only enough of MS-DOS was in place to effect the set-up of this hardcard by the manufacturer.

Quite a few meg. were used up in arbitrary data files. Obviously, the quality control people had done a thorough job in testing these little gems.

At this point, I removed the extraneous files and did a classic BACKUP onto micro-floppies. No unreliable tape drives for me! All it takes is time....

Then, I followed some of the instructions in the manual to transfer all of my DOS back to C: and worked up an appropriate AUTOEXEC file. Lastly, I proved that the beast would boot up properly.

I certainly found myself on a steep learning curve. Making the transition from Tasword to PC-Write was only part of it. Using different word processors is not too taxing. Word Perfect was the choice at my day job. There are similarities to PC-Write.

In addition to romping text between two machines and about the screen, there were data files to contend with. It only took me two tries to export a 6128 dBase II program to a form (SDF) suitable for dBase III+ on the PC20.

Someday, I may even get my Tattslotto analysis program to work reliably - then I can tell you all about the wonders of a Cray supercomputer....

Meanwhile, in the real world, I found more challenges. No matter how fluent you are in DOS operation, and how much you might work with it at a day job, things seem different when you're setting up your own system at home.

I found out at once that the

printer codes in the shareware PC-Write program did not match my particular model of NEC printer. Sure, I could treat it as a simple printer and manage to get hard copy - but I could not yet take advantage of the various fonts and colour options. So, this would mean more study of the separate manuals.

Quite by chance, I discovered another tool in DOS that I had now known existed. I'd learned of the < and > redirection symbols. Now, I learned a double >> would append to an existing file. Those of you who don't have the bells and whistles utilities to give you complete hard copy of your disc files can use this.

Starting at the root directory, the command:

DIR . COMPLEAT

will read a directory and place it in a file. Then, with:

DIR \subdir >> COMPLEAT

add the second lot of information to the disc file. Step by step, you can create one file which you might want to edit in a word processor, to tidy it or make additional notes on the contents.

Every subdirectory entry will start with the line:

Volume in drive A is LABEL

and end with:

nn File(s)   nnnnnn bytes free

of which one entry at the root directory is sufficient.

Even if you've just bought the machine and haven't any more software than came with it, there's EDLIN to aid your endeavours. It's a bit tricky, but no more so than the CP/M ED program, just a wee bit different.

EDLIN filename reads the text into memory. The L command displays some lines. Remove a single line with nnD. The P command can be used to show you successive pages of the text.

Finally, the E instruction will write the edited file to disc. If you get thoroughly flummoxed, the Q will abort the edit without saving the corruptions you will probably achieve on your first attempts.

Being a lazy sort, I next thought it would be possible to save myself some donkey work. I re-saved my Tradewars utility as an ASCII file, on the 6128 - then transferred it to the PC20 to process. Naturally, some of the syntax is different between the two BASIC implementations, but this approach saved me a lot of time.

Where one uses CAT in Loco-motive BASIC, for example, the keyword FILES is appropriate in GWBASIC. All in all, converting an existing program to a working PC20 example was relatively painless. I'd say this is basically (pun) a tribute to Amstrad's earlier work.

It was a delight to have the PC20 process one 147K capture file, though the results showed more work is needed. As I'm using the ANSI capability on-line, there are additional strings which need to be filtered out. Still, I'm better off than manipulating such massive files by word processing techniques alone.

The 720K micro-floppy capacity was one of the features that induced me into the MS-DOS world. Granted, I'd achieved the same storage with my outboard drive on the 6128 under CP/M. But I ended up with four different formats for the 5.25" inchers, and of course could not access the full 720K from Amsdos, because of firmware limitations.

In comparing the two operating systems, there are still things I like better about CP/M. Some of the snipers on the boards don't realise it's a bit unfair to expect 'mod cons' from a system that dates back 15 years - nor do they take into account that us old-timers were computer literate when they couldn't even spell the phrase. And maybe still can't.

Maybe we're getting soft. Five years ago, I word processed my wife's university thesis on a Spectrum. I'd converted to an upmarket keyboard - which was the only saving grace. The fourth and final draft of that document ran to 27,000 words.

That's a lot of cassette files! And, yes, I was using Tasword even then.

When I'd finished that daunting task, I said "never again" and looked for a disc based system. Now my demands have grown to the present layout. Wonder what's in store in ten years time? ∎

Teaching characteristics

▶ ▶ ▶ *Paul Gerard provides more code and more information to continue his 'intelligent' system.*

Originally we were going to have a look at input validation - the way of getting round the old bug bear of GIGO. Cutting out as much as we can of the "garbage in" can eliminate most of the "garbage out", thus making our programming more "intelligent". In fact I had so much bother getting this bit of code to run properly (it happens sometimes!) and we have so much code to get through, that we will postpone the theory to next month, and this month just get up to date with the program! You may like to cheat, and get this month's tape.

First, some modifications to "EXPERT", the core program.

These lines further refine and clean up our input routine.

```
200 ' User Input Routine (mark 1.4)
215 WHILE INKEY$<>"":WEND
267   IF caps THEN MID$(byte$,1)=UPPER$(byte$)
268   IF cap1 THEN IF long=0 THEN MID$(byte$,1)=UPPER$(byte$) ELSE MID$(byte$,1)=LOWER$(byte$)
269   IF lows THEN MID$(byte$,1)=LOWER$(byte$)
```

Add these lines to our "yes/no" routine - this eliminates the unwanted "yes" default it has at the moment.

Part of this next bit should logically be placed else-

```
500 ' Yes/No (v2)
505 WHILE INKEY$<>"":WEND
525 WHILE long=0
535 WEND
```

where, we just happen to have some spare line numbers! (Bad planning).

```
1700 ' find class no.
1710 class=0:class.found=FALSE
1720 WHILE (class<(count(3)-1)) AND (NOT class.found)
1730   class=class+1
1740   IF INSTR(classif$(0,class),class$(0))=1 THEN clas
```

```
s.found=TRUE
1750 WEND
1760 RETURN
1800 ' get attribute
1810 lows=TRUE:control=11:length=40:GOSUB 200:lows=FALSE 'Input routine
1820 attribute.len=long:IF long=0 THEN RETURN
1830 attrib$(1,attribute)=LEFT$(user.input$,attribute.len)
1840 RETURN
1850 ' find attribute
1860 attrib=0:attrib.found=FALSE
1870 WHILE (attrib<count(2)) AND (NOT attrib.found)
1871   attrib=attrib+1
1874   IF INSTR(attribute$(1,attrib),attrib$(1,attribute)) THEN attrib.found=TRUE
1876   IF attrib.found THEN CLS#3:LOCATE (19-LEN(attribute$(1,attrib)))/2,12:PRINT"Is that the same as "attribute$(1,attrib)" ?":GOSUB 500:IF NOT yes THEN IF attribute$(1,attrib)<>attrib$(1,attribute) THEN attrib.found=FALSE ELSE attrib.found=TRUE
1880 WEND
1890 RETURN
2950 ' get class no.
2955 IF classing.entity THEN control=9 ELSE control=11:caps=TRUE
2960 length=15:GOSUB 200:caps=FALSE 'Input routine
2965 class.len=long:IF long=0 THEN RETURN
2970 MID$(class.no$,1)=SPACE$(50)
2975 MID$(class.no$,1)=user.input$
2980 RETURN
```

Finally, as always, the menu and other changes for the new section of our system.

```
13000 ' initialisation of variables etc.
13100 ' Menus
13110 DIM menu$(31)
13120   RESTORE 40100
```

artificial intelligence

```
13130  FOR i=1 TO 31:READ menu$(I):NEXT        ' Menu opt
ions
13140  DIM menu.length(7)
13150  FOR i=1 TO 7:READ menu.length(i):NEXT 'Menu leng
ths
13160  DIM start(7)
13170  FOR i=1 TO 7:READ start(i):NEXT          'Menu star
ting points
13200 ' Headings
13210 DIM heading$(14)
13220  RESTORE 40200
13230  FOR i=1 TO 14:READ heading$(i):NEXT 'Heading val
ues
13250 ' Commands
13255 DIM command$(31)
13260  RESTORE 40300
13270  FOR i=1 TO 31:READ command$(i):NEXT '"commands"
13272 DIM comhead(7)
13274 FOR i=1 TO 7:READ comhead(i):NEXT ' command scree
n heading numbers
13276 DIM comquery$(7)
13278 FOR i=1 TO 7:READ comquery$(i):NEXT ' command que
stions
13380 class.no$=SPACE$(15)
40100 ' DATA for menu$(n)
40110 DATA Look at the MENU,SETUP a new expertise,TEACH
 existing expertise,ENQUIRE within on any subject,FINIS
H with expert,NAME expertise,DEFINE elements,RELATE ele
ments,CONFIRM expertise structure,"NAME         ",Defin
e ATTRIBUTE(s),Code CLASSIFICATION
40111 DATA "FINISH this          "
40112 DATA SELECT expertise for enquiry,CATALOGUE this
disc,ABANDON search
40115 DATA "CLASSIFY particular        ","DESCRIBE par
ticular        ",ANALYSE a classification,FIND particu
lar attribute,LIST        with attribute,FINISH search
40117 DATA SELECT expertise to teach,CATALOGUE this dis
c,ABANDON teaching,"NEW        ","New ATTRIBUTE","LINK
 attribute to        ",EDIT old entry,SAVE new data,A
BANDON teaching
40120 ' DATA for menu.length(n)
40130 DATA 4,4,4,3,6,3,6
40140 ' DATA for start(n)
40150 DATA 1,5,9,13,16,22,25
40200 ' DATA for heading$(n)
40210 DATA Main Menu,Set up new expertise,"Define entit
y  ",Enquire herein,Enquiry menu,Teach me !,Teacher mai
n menu,Welcome to EXPERT,New Expertise,New Entity,Enqui
re herein,Name Expertise,Define Entity,Define Attribute
,Catalogue of this disc
40300 ' DATA for command$(n)
40310 DATA MENU,SETUP NEW START,TEACH OLD INPUT ADD EDI
T,ENQUIRE SEARCH LEARN LOOK,QUIT ABANDON FINISH END GIV
E UP LEAVE DEPART LOGOFF LOG OFF,NAME EXPERTISE TITLE F
ILENAME SUBJECT,DEFINE TYPE KIND,RELATE RELATIONSHIPS
```

```
40312 DATA CONFIRM FIX FINISH,NAME ENTITY THING OBJECT,
DEFINE ATTRIBUTE DESCRIBE DESCRIPTION,CODE CLASSIFICATI
ON ORDER KIND,FINISH QUIT ABANDON END GIVE UP LEAVE DEP
ART
40315 DATA YES CONTINUE SELECT CHOOSE EXPERTISE,LIST CA
TALOGUE,NO ABANDON QUIT FINISH END GIVE UP LEAVE DEPART
40317 DATA CLASSIFY,DESCRIBE          ,ANALYSE CLASSIFICA
TION,FIND ATTRIBUTE,LIST          ,FINISH QUIT END GIVE
UP LEAVE DEPART
40318 DATA YES CONTINUE SELECT CHOOSE EXPERTISE,LIST CA
TALOGUE,NO ABANDON QUIT FINISH END GIVE UP LEAVE DEPART
40319 DATA NEW ENTITY          ADD,ATTRIBUTE CHARACTERI
STIC,LINK JOIN,MODIFY CLASSIFY CLASSIFICATION,SAVE STOR
E REMEMBER FILE KEEP,FINISH QUIT ABANDON END GIVE UP LE
AVE DEPART
40320 DATA 8,9,3,11,11,6,7
40325 ' data for comquery$
40330 DATA "What shall we do first ? ","Which aspect of
 expertise ? ","Which aspect of          ? ","Want to g
o on ? ","What kind of enquiry is this ? ","Want to go
on ? "
40340 DATA "Where shall we start ? "
```

Now the "main course" - the new teacher program.
This must be saved as a separate program, although
it will not run in its own right - it gets "chained" by
"EXPERT". If you are using a CPC464 with a DDI
then it must be saved as an ASCII file - with a
CPC664 or CPC6128 you can save loading time and
disc space by saving it as an ordinary (tokenised)
BASIC file.

```
3000 ' Edit existing data file for expert system
3040 finished=FALSE
3050 menu.number=6:GOSUB 150
3060 ON choice-21 GOSUB 3200,3100,3080
3065 IF mistake THEN GOSUB 12000 ' error routine
3070 IF finished=FALSE  THEN 3040 ' loop
3080 menu.number=1
3090 GOTO 90 ' return from sub-program
3100 ' catalogue routine
3110 GOSUB 3300 ' check directory
3130 GOSUB 800
3140 RETURN
3200 ' get files for expertise
3210 GOSUB 3300 ' check directory
3240 GOSUB 3400 ' get filename
3250 IF mistake THEN RETURN ELSE GOSUB 3500 ' load data
3260 GOSUB 5000 ' file edit
3290 RETURN
3300 ' check directory
3310 MID$(file.test$,1)="*        "
3320 CLS#3:GOSUB 2500 ' directory
3330 IF dir.lines THEN GOSUB 2600 ELSE CLS#1:PRINT#1,TA
B(7)"No expertise files on this disc !":t!=500:GOSUB 70
0
```

```
3340 RETURN
3400 ' get file name for load
3410 CLS#1:PRINT#1,"   The above expertises on this dis
c"
3420 LOCATE 2,MAX(13,VPOS(#0)+3):PRINT"Type your expert
ise here > ";
3430 GOSUB 2700                ' file name
3440 IF long<1 THEN mistake=TRUE:RETURN
3450 MID$(file.test$,1)=file.name$:GOSUB 2500 ' check i
f file in directory
3460 IF dir.lines THEN RETURN
3480 CLS#1:PRINT#1,TAB(7)LEFT$(file.name$,name.len)" no
t on this disc !":t!=500:GOSUB 700
3490 MID$(file.test$,1)="*       ":mistake=TRUE
3495 RETURN
3500 ' load data
3510 FOR i=1 TO 4
3520   MID$(file.test$,1)=data.file$(i)
3530   GOSUB 2500 ' check file
3540   IF dir.lines=0 THEN mistake=TRUE ELSE GOSUB 3600
3550 NEXT
3590 RETURN
3600 ' input data from files
3610 PRINT "Loading data from file ";file.test$
3620 OPENIN file.test$
3640   INPUT#9,count(i)
3680   ON i GOSUB 3700,3800,3900,4000
3690 RETURN
3700 ' entity data
3710 ERASE entity$,entity.point
3720 DIM entity$(1,count(1)+100),entity.point(count(1)+
100)
3740 FOR j=1 TO count(1)
3750   INPUT#9,entity$(0,j),entity$(1,j)
3760 NEXT
3770 CLOSEIN
3780 FOR j=1 TO count(1)+100
3785   entity.point(j)=j
3787 NEXT
3790 RETURN
3800 ' attribute data
3810 ERASE attribute$,attribute.point
3820 DIM attribute$(1,count(2)+100),attribute.point(cou
nt(2)+100)
3840 FOR j=1 TO count(2)
3850   INPUT#9,attribute$(0,j),attribute$(1,j)
3860 NEXT
3870 CLOSEIN
3880 FOR j=1 TO count(2)+100
3885   attribute.point(j)=j
3887 NEXT
3890 RETURN
3900 ' classification data
3910 ERASE classif$,classif.point
3920 DIM classif$(1,count(3)+100),classif.point(count(3
)+100)
3940 FOR j=1 TO count(3)
3950   INPUT#9,classif$(0,j),classif$(1,j)
3960 NEXT
3970 CLOSEIN
3980 FOR j=1 TO count(3)+100
3985   classif.point(j)=j
3987 NEXT
3990 RETURN
4000 ' link data
4010 ERASE linker$,linker.point
4020 DIM linker$(1,count(4)+100),linker.point(count(4)+
100)
4040 FOR j=1 TO count(4)
4050   INPUT#9,linker$(0,j),linker$(1,j)
4060 NEXT
4070 CLOSEIN
4080 FOR j=1 TO count(4)+100
4085   linker.point(j)=j
4087 NEXT
4090 RETURN
5000 ' edit data files
5010 IF MID$(file.name$,name.len,1)="S" THEN singular$=
LOWER$(LEFT$(file.name$,name.len-1)):plural$=LOWER$(LEF
T$(file.name$,name.len)) ELSE singular$,plural$=LOWER$(
LEFT$(file.name$,name.len))
5015 MID$(comquery$(3),17)=singular$
5020 MID$(menu$(26),5)=singular$
5030 MID$(menu$(28),19)=singular$
5035 MID$(menu$(10),6)=singular$
5037 MID$(menu$(13),13)=singular$
5038 MID$(heading$(3),8)=singular$
5039 MID$(command$(26),12)=UPPER$(plural$)
5040 menu.number=7:GOSUB 150
5050 ON choice-24 GOSUB 5200,5300,5400,5450,5070,5600
5060 IF NOT finished THEN 5040 ELSE 5090 'loop or end
5070 GOSUB 11000 ' sort data in memory for files
5080 GOSUB  9000 ' save data to files
5090 RETURN
5100 ' find entity
5110 mde=1:GOSUB 600:GOSUB 100
5120 end.search=FALSE
5125 CLS#3:CLS#1:LOCATE 5,12:PRINT"Name your "singular$
" > ";
5130 GOSUB 2800 ' get entity name
5132 IF entity.len=0 THEN RETURN
5135 GOSUB 2850 ' check if entity already known
5140 IF entity.found=FALSE THEN GOSUB 2900 ' check if e
ntity name used as class
5150 RETURN
5200 ' New entity
5205 another=TRUE
5210 head=3:GOSUB 5100 ' get entity name and determine
if already known
5215 IF entity.len=0 OR LEFT$(entity.name$,entity.len)=
```

```
"Quit" THEN GOSUB 5600:RETURN
5220 IF entity.query OR class.query THEN GOSUB 7100:IF
yes THEN 5210 ELSE RETURN
5230 IF entity.found THEN GOSUB 7200:RETURN ' exisiting
 entity
5240 IF class.found  THEN GOSUB 7300:RETURN ' entity =
existing class
5250 CLS#3:CLS#1:LOCATE (28-LEN(singular$))\2,10:PRINT"
Confirm new ";
5255 IF recursing THEN PRINT"classification" ELSE PRINT
 singular$
5260 LOCATE FNcentre(LEFT$(entity.name$,entity.len),0),
13
5265  PEN 3:PRINT UPPER$(LEFT$(entity.name$,entity.len)
):PEN 1
5270 GOSUB 500 ' yes/no
5275 IF NOT yes THEN 5210
5280 IF recursing THEN classif$(1,count(3)+1)=LEFT$(ent
ity.name$,entity.len) ELSE entity$(1,count(1)+1)=LEFT$(
entity.name$,entity.len)
5285 GOSUB 6000 ' complete new entry
5287 IF another THEN 5210
5290 RETURN
5600 ' finish editing
5610 CLS#3:CLS#1:LOCATE 1,12:PRINT"Confirm end teaching
 (data may be lost)"
5620 GOSUB 500 ' yes/no
5630 IF yes THEN finished=TRUE ELSE finished=FALSE
5640 RETURN
6000 ' complete new entry
6010 IF recursing THEN entity=count(3)+1 ELSE entity=co
unt(1)+1:classing.entity=true:GOSUB 6500
6020 classing.entity=true:GOSUB 6600 ' get attributes o
f entity
6030 GOSUB 6700 ' confirm new entity details
6040 IF NOT yes THEN RETURN
6045 GOSUB 6900 ' fix class and link data
6050 GOSUB 10000 ' add new details to data arrays
6060 IF another=TRUE THEN CLS#3:CLS#1:LOCATE 10,12:PRIN
T"Another "singular$" to add ?":GOSUB 500:IF yes THEN a
nother=TRUE ELSE another=FALSE
6090 RETURN
6500 ' classify an entity or attribute
6510 CLS#3:CLS#1:LOCATE 4,10:PRINT"Do you know the clas
s number of"
6520 IF classing.entity THEN LOCATE FNcentre(entity$(1,
entity),0),13:PEN 3:PRINT UPPER$(entity$(1,entity)):PEN
 1
6530 IF NOT classing.entity THEN LOCATE FNcentre(attrib
$(1,attribute),0),13:PEN 3:PRINT UPPER$(attrib$(1,attri
bute)):PEN 1
6540 GOSUB 500 ' yes/no
6545  IF yes THEN GOSUB 6800 ELSE GOSUB 8000 ' input or
 build class no.
6549 RETURN
```

```
6600 ' enter attributes of new entity
6605 attribute=0
6610 CLS#3:CLS#1:LOCATE 7,10:PRINT"Any special attribut
es for";
6620 IF recursing THEN LOCATE FNcentre(classif$(1,entit
y),0),13:PEN 3:PRINT UPPER$(classif$(1,entity)):PEN 1 E
LSE LOCATE FNcentre(entity$(1,entity),0),13:PEN 3:PRINT
 UPPER$(entity$(1,entity)):PEN 1
6625 GOSUB 500 ' yes/no
6630 WHILE yes
6635   attribute=attribute+1
6640   CLS#3:CLS#1:LOCATE 9,10:PRINT"Input attribute no.
 "attribute
6645   LOCATE 1,14:GOSUB 1800 ' input attribute
6650   IF attribute.len THEN GOSUB 1850:IF attrib.found
THEN attrib$(0,attribute)=attribute$(0,attrib) ELSE cla
ssing.entity=FALSE:GOSUB 6500
6670   IF attribute.len THEN CLS#3:CLS#1:LOCATE 9,10:PRI
NT"Another attribute ?":GOSUB 500 ELSE yes=FALSE:attrib
ute=attribute-1
6690   WEND
6697 new.attributes=attribute
6699 RETURN
6700 ' confirm new entity details
6710 CLS#3:CLS#1
6715 IF recursing THEN LOCATE 1,5 ELSE LOCATE (36-(LEN(
singular$)+LEN(entity$(1,entity))))\2,5
6720 PRINT"New ";:PEN 2
6725 IF recursing THEN PRINT "classification ";:PEN 3:P
RINT classif$(1,entity) ELSE PRINT singular$" ";:PEN 3:
PRINT entity$(1,entity)
6730 LOCATE (30-class.len)\2,7
6740 PEN 2:PRINT "Class no. ";:PEN 3:IF recursing THEN
PRINT classif$(0,entity) ELSE PRINT entity$(0,entity)
6745 PRINT:PRINT
6750 FOR attribute=1 TO new.attributes
6760   PRINT TAB(FNcentre(attrib$(1,attribute),0))attri
b$(1,attribute)
6770 NEXT
6775 IF new.attributes=0  THEN PRINT:PRINT:PRINT" No sp
ecial attributes  for the above "
6780 PEN 1:PRINT:PRINT:PRINT"Confirm details for new "s
ingular$" as above":GOSUB 500
6790 RETURN
6800 ' straight input of class no.
6810 CLS#3:CLS#1:LOCATE 2,12:PRINT"Input class number >
 ";
6820 GOSUB 2950
6830 ' check of no. will go here !!
6840 IF classing.entity THEN entity$(0,entity)=LEFT$(cl
ass.no$,class.len) ELSE attrib$(0,attribute)=LEFT$(clas
s.no$,class.len)
6890 RETURN
6900 ' class and links for new record
6910 GOSUB 10000 ' save data so far to arrays
```

```
6920 IF cut<>LEN(entity$(0,count(1))) THEN cut=LEN(enti
ty$(0,count(1))):cutoff=0
6930 WHILE (cutoff<cut) AND class.found=false
6940   cutoff=cutoff+1
6950   class$(0)=LEFT$(entity$(0,count(1)),cut-cutoff)
6960   GOSUB 1700:IF class.found THEN CLS#1:CLS#3:LOCATE
 1,12:PRINT"I note that a "entity$(1,count(1))" is a "c
lassif$(1,class):t!=500:GOSUB 700:GOTO 6990
6970   CLS#1:CLS#3:LOCATE (16-cutoff)\2,12:PRINT"Has cod
e "class$(0)" significance ?":GOSUB 500:IF yes=FALSE TH
EN 6990
6975   recursing=TRUE:classif$(0,count(3)+1)=class$(0)
6980   CLS#1:CLS#3:LOCATE 10,12:PRINT"What does it mean
? ":PRINT:PRINT"   ";:GOSUB 5130:GOSUB 5215
6990 WEND
6995 recursing=FALSE:IF class$(0)<>"" THEN ERASE class$
:cutoff=0
6999 RETURN
7000 ' special cases
7100 ' duplicated entity name
7110 entity.query=FALSE:class.query=FALSE
7120 CLS#3:CLS#1:LOCATE 5,12:PRINT"Your "singular$" nam
e is already used !"
7130 GOSUB 800   ' press any key
7140 CLS#3:CLS#1:LOCATE 10,12:PRINT"Want to try again ?
"
7150 GOSUB 500   ' yes/no
7190 RETURN
7200 ' modify instead of new entry !
7210 CLS#3:CLS#1:LOCATE 3,12:PRINT"Do you want to chang
e this entry ?"
7220 GOSUB 500   ' yes/no
7230 CLS#3:CLS#1:LOCATE 5,12
7240 IF yes THEN PRINT"Then pick the correct option !"
ELSE PRINT"Then  leave it well  alone  !!"
7250 GOSUB 800   ' press any key
7290 RETURN
7300 ' class becomes entity also
7310 '
7390 RETURN
9000 ' modify files
9100 ' save current memory data to files
9140 FOR i=1 TO 4
9150   MID$(file.test$,1)=data.file$(i)
9160   CLS#3:LOCATE 5,12:PRINT"Saving data to file "file
.test$
9170   OPENOUT file.test$
9180   WRITE#9,count(i)
9190   ON i GOSUB 9200,9300,9400,9500
9195 NEXT
9199 RETURN
9200 ' save entity data
9210 FOR j=1 TO count(1)
9220   WRITE#9,entity$(0,entity.point(j)),entity$(1,enti
ty.point(j))
```

```
9230 NEXT
9240 CLOSEOUT
9250 RETURN
9300 ' save attribute data
9310 FOR j=1 TO count(2)
9320   WRITE#9,attribute$(0,attribute.point(j)),attribut
e$(1,attribute.point(j))
9330 NEXT
9340 CLOSEOUT
9350 RETURN
9400 ' save class data
9410 FOR j=1 TO count(3)
9420   WRITE#9,classif$(0,classif.point(j)),classif$(1,c
lassif.point(j))
9430 NEXT
9440 CLOSEOUT
9450 RETURN
9500 ' save link data
9510 FOR j=1 TO count(4)
9520   WRITE#9,linker$(0,linker.point(j)),linker$(1,link
er.point(j))
9530 NEXT
9535 CLOSEOUT
9540 RETURN
10000 ' add data to arrays
10005 IF new.attributes THEN GOSUB 10100
10010 FOR attribute=1 TO new.attributes
10020   attribute$(0,count(2)+attribute)=attrib$(0,attri
bute)
10030   attribute$(1,count(2)+attribute)=attrib$(1,attri
bute)
10040 NEXT
10050 IF new.attributes THEN ERASE attrib$:new.attribut
es=0
10060 WHILE attribute$(0,count(2)+1)<>"":count(2)=count
(2)+1:WEND
10070 WHILE entity$(0,count(1)+1)<>"":count(1)=count(1)
+1:WEND
10080 WHILE classif$(0,count(3)+1)<>"":count(3)=count(3
)+1:WEND
10090 WHILE linker$(0,count(4)+1)<>"":count(4)=count(4)
+1:WEND
10095 RETURN
10100 ' add linker values
10110 FOR i=1 TO new.attributes
10120   IF recursing THEN linker$(0,count(4)+i)=classif$
(0,count(3)+1) ELSE linker$(0,count(4)+i)=entity$(0,cou
nt(1)+1)
10130   linker$(1,count(4)+i)=attrib$(0,i)
10140 NEXT
10150 RETURN
11000 ' sort data ready for saving
11010 FOR i=1 TO 4
11030   swop.flag=TRUE:stretch=count(i)
11035   CLS#3:LOCATE 5,12:PRINT"Sorting data for "data.
```

```
file$(i)
11040    WHILE swop.flag
11050       swop.flag=FALSE
11060       stretch=stretch-1
11070       FOR k=1 TO stretch
11080          ON i GOSUB 11200,11300,11400,11500
11090       NEXT
11100    WEND
11120 NEXT
11190 RETURN
11200 ' entity swop
11210 IF entity$(0,entity.point(k))>entity$(0,entity.po
int(k+1)) THEN swop=entity.point(k):entity.point(k)=ent
ity.point(k+1):entity.point(k+1)=swop:swop.flag=TRUE
11290 RETURN
11300 ' attribute swop
11310 IF attribute$(0,attribute.point(k))>attribute$(0,
attribute.point(k+1)) THEN swop=attribute.point(k):attr
ibute.point(k)=attribute.point(k+1):attribute.point(k+1
)=swop:swop.flag=TRUE:RETURN
11320 IF attribute$(0,attribute.point(k))<attribute$(0,
attribute.point(k+1)) THEN RETURN
11325 STOP
11330 MID$(attribute$(0,attribute.point(k+1)),1)="[[[]]
]]":count(2)=count(2)-1
11390 RETURN
11400 ' class swop
11410 IF classif$(0,classif.point(k))>classif$(0,classi
f.point(k+1)) THEN swop=classif.point(k):classif.point(
k)=classif.point(k+1):classif.point(k+1)=swop:swop.flag
=TRUE
11490 RETURN
11500 ' linker swop
11510 IF linker$(0,linker.point(k))>linker$(0,linker.po
int(k+1)) THEN swop=linker.point(k):linker.point(k)=lin
ker.point(k+1):linker.point(k+1)=swop:swop.flag=TRUE
11590 RETURN
12000 ' error routine
12010 CLS#1:PRINT#1,"Sorry, data for expertise not on d
isc !"
12030 t!=1500:GOSUB 700
12040 RETURN
```

To test that this is working properly, try inputting the following new animals (load the animal "expertise" first). If it looks a bit cryptic - it will make sense as the program asks for information.

ANIMAL/CLASSIFICATION

CORAL/4523586

Attr: Forms great reefs   Class: HBAA

452358 is significant - means ANTHOZOA.

SPIDER/452934

Attr: Catches flies   Class: DBC
Attr: Spins a web   Class: HF

45293 is significant - means ARACHNID

Attr: Has eight legs   Class: AD8

TASMANIAN TIGER /4587285

Attr: Has a stripy coat   Class: CS
Attr: Is a predator   Class: DB
Attr: Is probably extinct   Class: HG

CHIMPANZEE /4587478

Attr: Has been taught sign language Class: TI

458747 is significant - means PONGIDAE

Attr: Arms longer than legs   Class: ADAL
Attr: Has no tail   Class: ATO

TIGER /45878383

Attr: Has a stripy coat   Class: CS

4587838 is significant - means PANTHERA

Attr: Has big sharp teeth   Class: AN
Attr: Is very fierce   Class: TF
Attr: Is one of the great cats   Class: TG

PIG /45879985

Attr: Has a curly tail   Class: AO
Attr: Is useful for foodstuffs   Class: TH

458799 is significant - means ARTIODACTYLA

Attr: Even number of toes   Class: APE
Attr: Has a complex stomach   Class: AQC
Attr: Is a herbivore   Class: DE

Invoices with Locomail

► ► ►   *LocoMail is more than just a standard letter processor, providing you with many useful business functions.*

LocoMail is most commonly used to produce mailshots, typically standard business letters for a number of customers. But LocoMail can do a lot more for you than just prepare letters. Used to its full extent it's as powerful as a programming language, allowing you to change information, update data files, generate reports and manipulate numbers.

It's the ability to do arithmetic that makes LocoMail useful for all sorts of documents that require financial calculations, such as invoices or salary slips. LocoMail has all the functions you'd find on a simple calculator, and not only does calculations for you, it also inserts the results in your document automatically. As it works through a document, LocoMail absorbs all the instructions, performs the calculations and slots the results in, leaving you with a perfectly laid out version of a document, such as an invoice.

In this article, we look at using LocoMail to prepare invoices. We'll start by describing the sort of calculations you can get LocoMail to do for you. Then we'll show you how these instructions can be used in a master document to produce an invoice.

LocoMail can carry out all the common arithmetic operations needed by financial calculations - multiplying, subtracting, adding and dividing numbers. So instead of working out such things as totals and the tax on certain products by hand when you have an invoice to prepare, you can get LocoMail to do it for you.

LocoMail calculations are written using the symbols you'd find in other programming languages: +'s and -'s to show addition and subtraction; * for multiplication and/or division; and square brackets round the parts of the calculation you want to group together. The whole calculation is included in square brackets.

As you might expect, LocoMail works through the calculations in a specific order. Going from left to right, it works out any multiplications and divisions and then, from left to right again, it carries out the additions and subtractions. If you want to work out one part of a calculation before another, you need to enclose that part in square brackets.

LocoMail can handle up to 18 digits before the decimal point and 9 digits after the decimal point, giving you 27 digit numbers! LocoMail even uses 'decimal arithmetic' unlike many computer languages which use 'binary arithmetic'. The advantage is that any value we give to LocoMail is held exactly - with binary arithmetic small errors can occur in the digits after the decimal point. (These are increased by further calculations).

A simple LocoMail calculation might look like this:
ONE_THIRD=[SUM/3]

Where SUM is 11.00, the value in ONE_THIRD will be 3.666666667.

PRESENTING THE RESULTS

For calculations involving amounts of money, you're unlikely to want to display the results to such precision. So LocoMail lets you specify the form you want the result to take by including the format instructions alongside the calculation. These instructions are divided from the calculation itself by the vertical bar character:

[arithmetic|format]

(Owners of the 8000 machines have to press [EXTRA] and § to produce the vertical bar character. On the PCW9512, this character appears on the keyboard).

There are a number of ways in which you can format the results of calculations. You can round or truncate the result of a calculation to the number of decimal places you require. If you work with large numbers, you may find them easier to read by splitting them up. LocoMail lets you group the digits of a large number into threes, separating each group with a comma or a space.

Other refinements include adding a + or a space in front of the figure and marking the decimal point with a comma, instead of the decimal marker set in the layout.

All these formatting features are covered in Chapter 8 of the new LocoMail User Guide. Here, we'll look at how to work out the result of a calculation to 2 deci-

mal places needed when you work in $'s.

To give the result of a calculation to just 2 decimal places, you simply type the vertical bar character followed by the number 2. For example, a TAX calculation might look like this:

TAX=[PRICE *15/100|2]

If PRICE is 9.99 the result will be 1.50

If all you give is the number of decimal places, LocoMail will simply round the results of a calculation to this number of decimal places. The result of our calculation is 1.496 so LocoMail will round it to 1.50. If the result had been 1.494, it would have been rounded to 1.49.

For TAX calculations, you might want to truncate the result rather than round it, so that both 1.496 and 1.494 will be 1.49. To do this, you need to add an exclamation mark after the figure giving the number of decimal places:

TAX=[PRICE*15/100|2!]

This time the value in TAX is 1.49

PUTTING IT INTO PRACTICE

The tax calculation is just the sort of calculation you'd use in an invoice. The new LocoMail User Guide includes a worked example of an invoice, which also appears on the new LocoMail Examples disc. This invoice is set up so that all the information about each sale such as the description, the price etc. is typed in at the keyboard leaving LocoMail to perform the calculations and display the results.

For this article, we've designed an invoice that minimises the amount of information you have to type in so that it's quick and easy to use. LocoMail does most of the work for you, fetching information already set up, working out the cost, tax and totals and displaying the details of the sale. This sort of invoice is useful where you have a set list of products, but as we'll see later, a single extra instruction can be added to let you invoice for items not included on the list.

Our master document generates standard information, such as the headings, and then takes information typed in and produces details of each sale, line by line. When all the sales have been added, the final total is displayed.

THE STRUCTURE OF THE INVOICE

The invoice is made up of both fixed and varying information. For example, the column headings will be fixed as they are the same for all versions of the document. The LocoMail instructions take care of the information that changes from invoice to invoice, such as the name and address. So our master document uses a mixture of LocoScript text and LocoMail instructions.

For the purposes of building the master document, we've broken down the invoice into a number of parts that we can tackle separately:
- main heading - INVOICE TO
- customer's name and address
- column headings - ITEM, PRICE etc.

- details of each sale, line by line
- the final total for the invoice

We'll look at how to produce each of these parts in turn.

The heading text INVOICE TO: is straightforward text that you type in just as if you were producing any LocoScript document.

The next item of information is the customer's name and address. The customer's details will be different for each version of the invoice, so we're using a simple LocoMail prompt to fetch the information from the keyboard, and slot it straight into the document.

?name; ENTER NAME AND ADDRESS

The next step is to produce the headings. As we need this information in every version, this is simple LocoScript text. To make sure that the headings are spaced apart and the figures line up below the headings, we've also introduced a Layout code with suitable tab stops set up.

(LayouT)
ITEM PRICE QUANTITY COST TAX TOTAL

FETCHING THE SALES DETAILS

Next we need to think about how to produce each line of sales details. At this stage, we have to consider two things:
- the description and price of the product
- the calculations to work out the cost, add tax and produce the total

We could type in the product name and price as part of the details for each item, but as our product range and prices are fixed we can take a short cut. What we do is set up the description of the items sold and the price under item names at the start of the master.

desc1="Compact discs":price1="11.99"
desc2="Records":price2="5.99"
desc3="Tapes":price3="6.99"

All you need to do is type a number in the range 1 to 3 in response to the list of products. LocoMail does the work of filling in the description and price for you from the information set up here.

We get LocoMail to pick out the right description and price by prompting for the number of the product:

item=?#:(1) Compact disc (2) Record (3) Tape
ENTER ITEM SOLD

At this point, typing any character other than a number would cause unwanted effects. LocoMail compares the number you type here with the numbers 1 to 3, so typing, say, an alphabetic character will simply produce a 'Type mismatch' error. We've solved the problem by adding a # after the ? in the prompt. The # asks LocoMail to check that the character is a number. If it isn't, LocoMail stops and 'bleeps', only continuing when you type a numeric character.

With the number in item LocoMail can set up the description and price of the product sold for you.

locomail

THE MASTER DOCUMENT

```
(LayoutT) (+Mail)⏎
cost=0:total=0:tax=0:running_total=0⏎
no="n*":tab=" → ":cr=" "
" ⏎
desc1="Compact discs":price1="11.99"⏎
desc2="Records":price2="5.99"⏎
desc3="Tapes":price3="6.99"⏎
getdetails="⏎
item=?#;(1) Compact disc (2) Record (3) Tape
ENTER ITEM SOLD⏎
quantity=?#; ENTER NUMBER OF ITEMS SOLD⏎
#item=1:<:price=price1:desc=desc1:>⏎
#item=3:<:price=price2:desc=desc2:>⏎
#item=4:<:price=price3:desc=desc3:>⏎
#(item<1 or item>3):<:price=?:desc=?:>⏎
cost=[price*quantity]⏎
tax=[cost*15/100|2!]⏎
total=[cost+tax]⏎
running_total=[running_total+total]⏎
tab:desc:tab:price:tab:quantity:tab:cost:tab:tax:tab:total:cr⏎
reply=?; ANYTHING ELSE?⏎
Press ENTER for YES or type N for NO⏎
#reply=no:<:finish=0:><:finish=1:>⏎
" ⏎
(-Mail)⏎
INVOICE TO:⏎
⏎
(+Mail)name=?;⏎
ENTER NAME AND ADDRESS(-Mail)⏎
⏎
(LayoutT)⏎
ITEM PRICE QUANTITY COST TAX TOTAL⏎
⏎
(+Mail)⏎
%getdetails@finish⏎
(-Mail) (LayoutT)⏎
FINAL TOTAL = $(+Mail)running_total(-Mail)⏎
```

We've set up useful information under item-names at the beginning of the master document.

You're not limited to three items on the product list. To add more simply type in the descriptions of the items and add the appropriate 'if' statements.

LocoMail performs the instructions until you type N at the prompt ANYTHING ELSE?

This requires three simple 'if' statements.

> #item=1:<:price=price1:desc=descl:>
> #item=2:<:price=price2:desc=desc2:>
> #item=3:<:price=price3:desc=desc3:>

So if the value in item is "1", the value in price will be "11.99" and desc will store the value "Compact disc".

It's at this point that a single LocoMail instruction can make the invoice more flexible. The following instruction lets you add the details of a product not already displayed.

> #(item<1 or item>3):<:price=?:desc=?:>

So if you want to invoice a customer for, say, a specially reduced range of compact discs, simply type in a number outside the range 1 to 3 and LocoMail will prompt you for the description and price. Another advantage is that it allows you to make a mistake! If you accidentally type in, say, 4 instead of 3, you can type in the details yourself rather than abandoning the current version and starting again.

With a further prompt to fetch the number of items sold, we have all the information we need to perform the calculations. We need to work out the total cost of the number of items, and add the tax due to produce a total. To find out the cost we simply multiply the price by the quantity.

> cost=[price*quantity]

Then we work out the TAX using an instruction similar to our earlier example:

> tax=[cost*15/100|2!]

TAX is then included in the total cost:

> total=[cost+tax]

As we want to display a final total, the item name running_total keeps track of the total owed so far.

> running_total=[running_total+total]

As we're calculating the result by adding to the current value in the item-name running_total a number of times, we've been careful to set the initial value to 0 at the start of the master document.

Once we've done the calculations, the next step is to display the details of the sale. We've already formatted the results in the calculation so we simply need to slot the current values in the item-names into the document. To make this easier, we've set up the LocoScript layout character → under the item-name tab.

> tab:desc:tab:price:tab.....

PRODUCING MORE SALES

These instructions are fine for just one line of sales details. But in practice, we'll want to produce an invoice for several sales. So we need a way of repeating these instructions until all the sales to a customer have been added. We solve this problem but putting these instructions in a program unit and asking LocoMail to carry out the instructions as many times as required. This is done easily enough by enclosing the instructions in quote marks and giving them a name such as get details.

However, we can't just leave it at that. If we ask LocoMail to carry out instructions repeatedly we also need a way of telling it when to stop! So we've added a couple of instructions to control how many lines of the details are included in the invoice.

> reply=?: ANYTHING ELSE?
> Press ENTER for YES or type N for NO
> #reply=no:<:finish=0:><:finish=1:>

We've adapted these instructions from the building block PROGUNIT.GEN which is one of the things you'll find on the new LocoMail Examples disc. For those of you who want to know how this works, there's a full explanation in the new LocoMail User Guide.

Once all the lines in the invoice have been added, the only thing left to do is display the final total. A final Layout code is inserted into the document with a couple of tab stops set up to position the text "FINAL TOTAL" and the value in running_total. The last LocoMail instruction displays the value of running_total.

> FINAL TOTAL =£(+Mail)running_total (-Mail)

FILLING THE INVOICE

Start by picking out the master document with File cursor on the Disc Manager Screen. Press "F" for Fill and when the menu confirming the document you've selected appears, press [ENTER]. Then simply type in the details as LocoMail prompts you for them. ∎

Default with Protext

John Barlow looks at the default settings in Protext and discusses ways to make them more "user friendly".

In the first article in this series on PROTEXT, I mentioned that I was not happy with many of the default settings contained in what was, otherwise, an excellent word processing package. Then, last month we looked at the creation of a PHRASES.STD file in Protext. On reflection, I feel that we were probably putting the cart before the horse. The first thing anyone who is converting to a new word processing program wants is to make it feel as much like their old one as is humanly possible.

This month, I will attempt to explain how one member of the 'computer illiterate' fraternity came to grips with the problem. If I could do it, anyone could.

In spite of the fact that the backroom boys and girls at Arnor had done a great job in coming up with a fast, flexible, command driven word processing package, I don't think they considered the fact that most purchasers of PROTEXT PCW were used to working with LocoScript. Unfortunately, many of the default parameters were different to those experienced with Locomotive's user friendly product.

The type size was different - defaulting to 12 point, PICA, instead of the 10 point, ELITE, to which I had been accustomed; the top, bottom and side margins were different; and many of the other default settings were different. All of which contributed to make PROTEXT feel clumsy.

Although it is fairly easy to overcome these default settings with the use of printer commands and template expansions, they all have the effect of increasing the size of templates and using up valuable memory.

The first job I undertook, then, was to reset those default parameters to suit me.

Fortunately, Arnor had incorporated many of the PCW's specialized key controls in PROTEXT, which helped get me off to a good start. The rest, although not easy, was achievable in spite of the lack of help offered by the manual. What I found was needed, however, was an enquiring mind, a couple of spare discs and, most of all, an indefatigable sense of adventure.

A sense of humour will also help. You are about to go, boldly, where very few have gone before.

THE PROTEXT ZONE
The inclination of most of us is to only refer to the manual in times of desperation. This is not recommended when entering the PROTEXT zone.

It is imperative that you read at least the first few chapters before inserting the first disc in the drive - if only to find out how to install PROTEXT and create your initial Start Of Day (SOD) disc.

I say 'your initial' disc because what you will have after the first few minutes is only the raw material from which you will build your actual SOD disc (see figure 1).

• Figure 1

All the instructions to enable you to get to this stage are, fortunately contained in those first few chapters. From there on, you are virtually on your own.

If you are like me, as soon as stage one is complete, you will want to take PROTEXT for a spin. It is at this point you will discover the differences between it and LOCOSCRIPT. It is also at this point that you will want to delve further into the manual to find out

how to alter the parameters. And, to your great disappointment, this is where you will discover that the manual is sadly lacking. Although it will tell what most of the default settings are, it will not tell you how to change them; apart from showing you how to insert command codes into your document templates - which is fine if all you want to do is type out the odd document from time to time. But where space is of the essence, it can be likened to the Federal Government filling the loopholes in the taxation laws; it solves the problem, temporarily, but tends to create other loopholes.

```
PROTEXT CONFIG v1.02 (C) Arnor 1988      MAIN MENU        Current Drive : A

              1 - Set editing options

              2 - Set spelling checker options

              3 - Set printing options

              4 - Set general PROTEXT options

              5 - Set keys for PCW8256/2512

              6 - Set keys for CPC6128

              7 - Set printer driver options

              8 - Set name for AUTOEXEC file

              9 - Save configuration file

              0 - Quit configuration program

              Select option : █
```

Drive is A:
• Figure 2

Stage two in the initialization of PROTEXT, then, is to alter many of the parameters set by the people at Arnor.

After checking that your new SOD disc works, reboot PROTEXT then, once it is up and running, turn the disc over to side B and type CONFIG.

You will then be offered a menu consisting of ten options (see figure 2). Select option 1, Set Editing Options. You will then be confronted by a listing of the defaults set for editing (see figure 3). The changes you now make will depend on a number of factors,

Set editing options

```
Default drive for text            : B   Tabs/returns displayed          : N
Default group for text            : 0   Spaces displayed                : N
Insert/Overwrite mode             : I   Control codes displayed         : Y
Right justify on                  : Y   Document/Program mode           : D
Word-wrap on                      : Y   Doc/prog mode for imported files: D
Box mode on                       : N   Undelete buffer size            : 512
Help lines on                     : N   Cursor flash rate               : 500
Background printing on            : Y   Temporary text drive            : M
Prompt for background printing    : Y   Sideways scroll increment       : 20
Decimal tabs commas/full stops    : .
```

• Figure 3

including the number of drives you have and the size of the memory contained in your machine. In my case, I have a single drive, 8256 machine with its memory boosted to 512k.

To make the changes, simply type the new default setting over the old one.

The first of these is the default drive for text. This refers to the drive used to store filed documents; which, in the case of my PROTEXT SOD disc was set to default to drive B. Obviously, with only a single drive, I changed it to default to drive A.

Being happy with the storage of my text in Group O of the disc and the Insert mode (which can be toggled ON or OFF at the keyboard as required), I skipped down to Right Justify. Because of the fact that the elongated dashes used in my text documents tend to throw Right Justification out of alignment, I prefer a ragged right margin. For that reason I changed the Right Justify ON default to OFF by inserting N instead of Y.

I also changed the Background Printing prompt OFF by changing it to N. And, because I like to see where I start and end a paragraph, I switched the Tabs/Returns Displayed option ON (Y).

Most of the remaining defaults I found satisfactory except for the Undelete Buffer Size.

Because I work with long documents, and because I use the delete function as a small memory for cutting and pasting, I have found 512 bytes a little small. After a bit of trial and error, I reset the Undelete Buffer to 999. This gives me a fast cut and paste facility which is capable of handling almost 1k. Anything longer, I can use the block transfer facility to store blocks of text in another file until they're needed.

Having made all the necessary changes, it's simply a matter of pressing STOP to get back to the main CONFIG menu.

Next, I selected option 2, Set Spelling Checker Options.

Once again, this assumes that I have the document I want checked is stored on a data disc in drive B. In fact, although I've made it a practice to save my text documents before carrying out a spell check, the document I want to check is stored in temporary

Set printing options

Page length	: 66	Continuous printing on	: Y
Line spacing	: 1	New page after print	: Y
Top margin	: 3	Page number at top	: N
Header margin	: 2	Page number at bottom	: N
Footer margin	: 2	Form feeds enabled	: N
Bottom margin	: 3		
Side margin	: 5		

• Figure 4

drive M. After checking, it is resaved to drive A. For this reason I have reset the default to drive M.

From the spelling checker go into option 3, Set Printing Options (See figure 4).

Once again the changes made here will be a matter of personal choice. I use a great deal of

protext

continuous paper so my parameters conform more to that medium than to single sheet paper. I also write a fair number of manuscripts which require wide side margins. The only changes I have made here are to the margin sizes, altering the top margin to 0; the bottom margin to 4; and the side margin to 10, instead of the original default setting of 5.

Returning to the CONFIG menu, select option 4, Set General PROTEXT Options.

The only default I have changed in this section is to expand the Expansion Token Buffer Size from 200 bytes to 512. The Expansion Token Buffer, for those of you who read last month's column, is where your PHRASES.STD file is stored.

```
PROTEXT SETPRINT v1.01 (C) Arnor 1986    Current filename : A PCW.PTR

1 - Set printer options
2 - Set serial options
3 - Set printer control codes
4 - Set character translations
5 - Set character widths
6 - Load printer driver
7 - Save printer driver
0 - Quit SETPRINT

Select option : ■
```

• Figure 5

Unless it is expanded, you will find that it won't be able to load all the phrases you built (programmed?) and will keep dumping data, only taking in as much as it can comfortably store - the result being that, with a PHRASES file the size of the one we looked at last month, only the latter half of the file will be stored for immediate use.

That's all we need change at this stage so, after returning to the main CONFIG menu, we can begin the process of saving all our hard-won gains.

Before selecting option 9, Save Configuration File, however, you will need to turn the disc over so that side A (or side 1, depending of the type of discs you're using) is facing the drive-head. Now select option 9 - checking the instruction text to ensure

Set printer control codes

```
Reset printer ] on       Italics        i on off                     r
              a                         j               Subscript    s on off
Bold          b on off                  k               Superscript  t on off
Condensed     c on off   Enlarged       l on off        Underline    u on off
Double-strike d on off                  m                            v
Elite         e on       Normal (Pica)  n on                         w
Font change 1 f                         o                            x
Font change 2 g          Proportional   p on off                     y
              h          MLQ            q on off                     z
```

] on : 27 64

] off :

• Figure 6a

that your new PROTEXT.CFG file will be saved to drive A and not to drive M.

Once saved, the screen will return to the CONFIG menu, at which time you can select option O, Quit Configuration Program. After a lot of whirring and coughing your PCW will rattle through part of the boot-up process and start looking for a configuration

program. Unlike its earlier efforts, it will now find one.

Just to check that everything is working, remove the disc, switch off and carry out a complete re-boot.

By now you'll be as pleased as Punch with yourself and go in search of your spouse to show him or her what a clever Dickie you are. After "oohing" and "aahing", they'll go back to bed or their book, or whatever else they were doing before you so rudely interrupted them, shaking their heads in the wonder that such a small achievement can bring so much joy to one who normally seems so reserved and intelligent.

Ignore their strange glances. They have no idea of the magnitude of the journey you have just undertaken. What you have achieved is something that the boffins at Arnor couldn't, or wouldn't, or both. Give yourself a pat on the back; then go and make a refreshing cup of coffee or tea. You're going to need it. There's more to come.

DRIVING A PRINTER

Earlier, I mentioned the fact that Arnor seems to prefer 16 point PICA as a default type size than the more delicate 10 point ELITE. We now intend to change that.

Back at the keyboard swap back to side B of the SOD disc and type SETPRINT. After which you will be presented with a new menu (See figure 5).

Select option 6, Load Printer Driver. The name of the default printer should now appear. If not, type PCW.PTR and press ENTER (or RETURN, as is your wont).

Next, select option 3, Set Printer Control Codes, you will now be presented with a listing of the printer control codes with the cursor over the Reset symbol, @ (see figure 6(a)). As we want to alter the reset code to default to elite, press RETURN to take the cursor down to the @ ON line in the bottom half of the screen. Using the horizontal cursor keys, move the cursor over to the right hand end of the line and add the ASCII codes 27 77 (See figure 6 (b)). Once the codes have been altered, press STOP to return to the @ symbol in the top part of the screen.

Using the vertical cursor keys, move the cursor down to the symbol for Condensed type, c, then

Set printer control codes

```
Reset printer @ on       Italics        i on off                     r
              a                         j               Subscript    s on off
Bold          b on off                  k               Superscript  t on off
Condensed     c on off   Enlarged       l on off        Underline    u on off
Double-strike d on off                  m                            v
Elite         e on       Normal (Pica)  n on                         w
Font change 1 f                         o                            x
Font change 2 g          Proportional   p on off                     y
              h          MLQ            q on off                     z
```

] on : 27 64 27 77

] off : ■

• Figure 6b

press ENTER twice to bring the cursor down to the OFF line. Delete the existing code and change it to 27 77, then press STOP to return to the top of the screen.

Using the vertical cursor keys, once again, move the cursor down and across to the n symbol (for Normal, or Pica), press RETURN twice to take the cursor down to the OFF line and insert the codes, 27 77, then return to the top of the screen.

The last code to be changed is that for Proportional Spacing. Move the cursor down to the P symbol, then press ENTER twice. Once at the OFF line add the same 27 77 to those codes (27 112 0) already in place. Having made this last change, press STOP twice - the first time to take you to the top portion of the screen, the second to take you back to the SETPRINT menu.

Before saving the changes you have already made, select option 1, Set Printer Options, move the cursor down to Character Width, change the 12 to a 10 then press STOP to return to the SETPRINT menu.

Now, change your disc over from side B to side A, select option 7, Save Printer Driver, ensuring that the text indicates that it will be saved as PCW.PTR.

While still on side A of your SOD disc, select option 0, Quit SETPRINT.

The final step in initializing your Start of Day disc involves a little house-keeping.

Assuming you don't require a driver for either a Daisy Wheel or Epson-type printer, you can erase these drivers from side A of the disc (remembering that they're also stored on side B if you should need them later).

Next, transfer your PHRASES.STD file across to your new SOD disc using PROTEXT's copying facility. And, finally, create a master template from which you can mould your other templates (See Figure 7).

The reason for this last move, because, now you are using 10 point Elite, you can now fit 75 characters to each line instead of the 70 you could fit with the 12 point Pica.

With the changes you have made to PROTEXT's default parameters you will now find that the command lines in your templates will have been reduced to almost zero - apart, that is from an extended Ruler

```
PROTEXT  Document  << No File >> 1K   Right-Justify      Word-Wrap   ALT-H for Help
Page 1  Line 1    Col 1              No markers set                 Insert
L--------!---------!---------!---------!---------!---------!----R
)CO TEMPLATE.MST↵
>----!-------------------------------------------------------Re↵




PROTEXT v6.02 (c) Arnor 1986    Type HELP for Command info    Printer: PCW
a)|
```

• Figure 7

line and any personalizing you may wish to introduce. The rest is being carried out within the master program. ∎
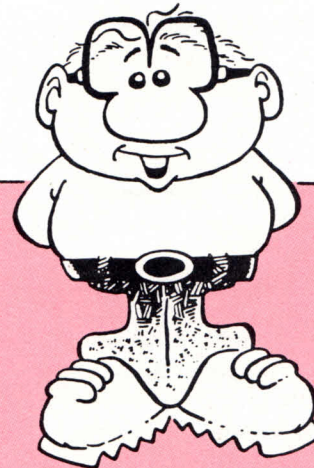
Know your rights

▶ ▶ ▶ *Software licences are confusing to say the least, but with the help of Roger Jolly, things are made much clearer.*

When the original WordStar package was first released it came in a sealed plastic envelope. The licence conditions were inside safe from view unless you opened the package. Printed on a sheet of paper was the annotation that opening the package committed you to the licensing conditions - at least that's how the story goes.

Even if this commitment to certain conditions of purchase seems a little unfair when you cannot read the conditions before opening a sealed packet, worse is the concept of the licence itself. Licensing your software is a Catch-22 situation. You don't own the software, nor do you have any rights to the printed documentation.

> *"At least once in my use of various computers, I feel sure that I have made one backup copy too many or perhaps accidentally left a copy of my program on another machine."*

Arguably, the only rights you have are in regard to the physical media which most software houses will replace if the media is corrupt.

As computing in the home and the office has become more and more popular over the years, those new to computing think that just because they have spent $100 on a program they therefore have bought it! How mistaken they are.

You actually purchase a right to USE the program for a limited (or unlimited - depending on the licence) period. At no point do you own the program. Ownership is held variously by the writer, publisher or others but certainly not the user.

WILL THE SOFTWARE WORK?

When you buy a licence to use software, generally the software supplier does not warrant that the software will do what you want. You can have a pretty good idea what a word processor will do but at the end of the day if using the program causes you a problem - hard luck. Even your operating system is not immune.

Most operating system licences don't give you a guarantee of compatibility with most programs. In short programs are delivered 'as-is' and without warranties of any kind. Companies that have tried to prove data loss of various kinds through software faults have not yet succeeded in making any publisher liable for the effects of a software product.

THE LICENCE AND THE PIRATE

So what has this all got to do with

piracy? In a sentence we are all pirates of software. At least once in my use of various computers, I feel sure that I have made one backup copy too many or perhaps accidentally left a copy of my program on another machine. In short most of us have breached a licence agreement on at least one program in our collection and we probably did it without even noticing!

Software piracy on this scale has the same status as video recording a TV program, taping your favourite record for use in your car tape machine or photocopying a couple of pages out of a book for reference. All are theoretically breaches of the copyright holder's licence but no-one would be prosecuted for offences committed every day in the average home. Borland has led the move to the 'paperback' principle of software licensing: you can put the software on as many machines as you like provided it is only in use on one of them at any one time. Just as only one person can read a book at one time. This effectively makes the licence much more easily understood by the average user.

I am not sure if Borland were the first to create this kind of licence but they are certainly the company that popularised the 'paperback' principle.

THE 'DONGLE'

On the other side of the coin is

the 'Dongle'. This term relates to the various daft methods used by software houses to 'copy-protect' programs in the past. Most of these methods used some form of external hardware device (the Dongle) which after being inserted into an I/O port allowed the use of the software. Thus copying a program was easy but trying to run a program without the attached Dongle was just about impossible.

Various types of Dongle were tried over time but this kind of copy protection had two effects. Firstly legitimate users were often frustrated by copy protection. This was particularly the case where the Dongle was a 'key-disk' that always had to be inserted in drive A: Hard disc users were incensed that they always had to have a master disc handy. The net result was a whole industry of backup tools for copy protected discs that were out to beat copy protection.

Secondly a new group of copy protection 'hackers' broke each and every copy protection scheme. To prove they had beaten the system they would distribute programs covertly boasting about the programs that had been cracked. Perversely the very system that attempted to protect discs from copying was cracked time and time again in order to 'prove' the illegal skills of hackers. For the major software companies it was a shock that copy protected discs were more likely to be pirated than the less protected discs because they became a challenge to beat. I suspect that the programs which had copy protection were of little interest to the hacker he (or she) just wanted to beat the system. Having beaten a disc it probably sat gathering dust on the shelf.

THE UN-EASY ALLIANCE
Strangely enough the unauthorised copying of software is not a one-sided relationship which works against the interests of the software producers. Many illegally copied discs are often used by people for a while before they

make a legitimate purchase. A tacit admission that even corporate users 'evaluate' a colleague's copy of a program appears in the gradual improvement of demo programs to almost full versions of software. Illegal evaluation goes hand in hand with users who take the software they use in the office for their machine they use at home. Whilst not legal it is in the interests of software companies that Mr. X uses their product all the time so that he will advise his company to purchase their upgrade to the next version. If Mr. X uses a cheaper program legally at home he may well advise his

company to buy something else next time. In essence the copying of software outside the licence agreement need not always be regarded a piracy pure and simple. The illegal use of software on another machine may indoctrinate people to a particular user interface and prevent the use of cheaper alternatives.

THE BIG FISH
Individual pirating whether by accident or deliberately by users need not worry most software suppliers. They can rest assured that software piracy at a private level will continue and many people will have the odd bit of software in their library which they should not have.

However the complexity of modern software will spur most users on to get a proper manual. Novice users will always need the technical support. Moreover the continuing virus scares will push more people into legality.

Overall piracy probably costs most software companies less than a meal with a VNU journalist. Mainly because most statistics fail to note that casual piracy of

programs is precisely that - casual. No sale has been lost because user B copied user A's disc - he probably wouldn't have bought the program anyway. There are much bigger fish than Joe Bloggs. The Hong Kong traders offering Dbase III with manuals for $30. Dealers that include Wordperfect and other programs 'free' on hard cards. Corporate pirates who distribute 'backups' throughout an office. All these and other specific groups are finely tuned deliberate pirates who care little for copyright.

Most users are pretty honest. The programs they use regularly

'Strangely enough the unauthorised copying of software is not a one-sided relationship which works against the interests of the software producers.'

will be legal and will have been purchased properly. One or two programs on the shelf may be copied from a friend but these are rarely used. Other programs are from work and are probably legal since most people cannot use their home and work computers at the same time.

This kind of user seems to me at least to be well within the spirit of using software legally so why don't we make licensing easier and help basically honest people to stay within the law and catch the real copier? It seems that licences are drawn too widely to catch the casual miss-deed rather than the dedicated criminal. I think software companies should begin making statements which reflect reality and take the pressure off the casual copier. ∎

PC games review

▶ ▶ ▶   *PC games are really coming in thick and fast, so here's a much deserved look at some of the latest and greatest.*

OOZE
Dragonware's spooky tales of terror
PC Disk - $49.95

"Oh my God!", Ham Burger cried when he read the letter from the lawyer informing him of his inheritance of Carafax Abbey.

"A house... a house of my own..." he was frantic with joy but this turned to sadness as he thought of his poor uncle Cheez. He sat down on an old chair which groaned under his weight and reflected upon the uncle that he hadn't seen in a very long time.

A tear glistened in his eye as he thumbed through the old worn out diary and read some of the entries his late uncle had made. Eventually, he got up, wiped the tears from his cheeks and went over to a shelf.

"Uncle Cheez surely wouldn't want me to be unhappy about his... accident..." he muttered to himself as he took an atlas from the shelf. "Where is it?... oh yeah! Den-bo-rough, well let's take a look

see..."

It took a while until he found the small village on the map. "Southeast of Salom's Slot, well that's not a hell of a travel..."

Some days later, Ham found himself standing in front of Carafax Abbey.. and that's where you enter the story. Take over Ham's part in the plot and find out just what's been going on at Carafax Abbey. Find OOZE!

OOZE is an atmospheric text adventure that will appeal to anyone who enjoys old "Haunted House" movies as the residents of number 555 Rue Morgue are no exception to this case.

You, the blissfully ignorant Ham Burger, must explore Carafax Abbey and unravel the mysteries left by your poor uncle Cheez. The Mansion is full of your typical haunted house fare with paintings that watch your every move, disconnected phones that ring, mysterious locked doors and things that generally go bump in the night.

The spirits haunting Carafax Abbey are many and varied. Ludus is a small red ghost that loves to scare the life out of you while Lancelot, the knight in rusty armour, can be seen roaming the hallways deep into the night.

Then there is OOZE himself, the master of evil who must be defeated or your discoveries will soon bring you the same fate as your late uncle.

Being a text adventure, you'd expect plenty of it, and there is. The location descriptions are long and detailed and give the game a good, atmospheric feel while the graphic locations are surprisingly good but unfortunately few and far between.

Some commands have also been abbreviated to the function keys allowing you to check your stamina, available exits and the likes at the press of a button making progress a lot quicker.
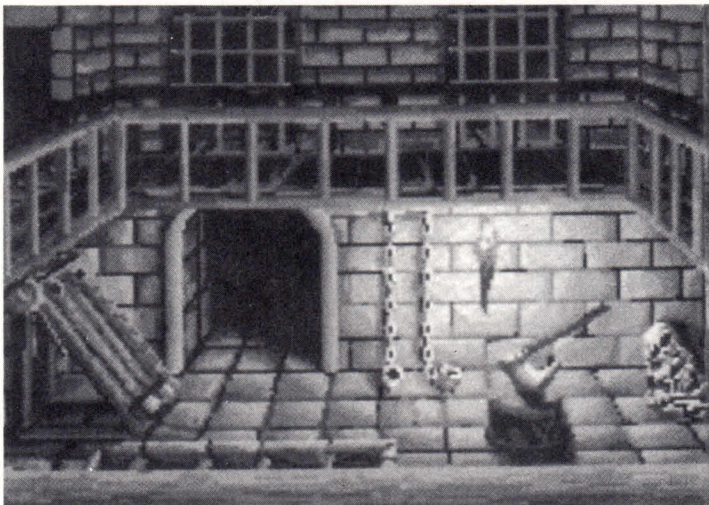
• *Down in the dungeon.*

The program boasts a 1500 word vocabulary but this still leaves a lot to be desired. For instance, on entering "DUCK" when one of the spooks threw a fireball at me, all I got was "YO! CHILLOUT! I'D PREFER NICE COMPLEX SENTENCES". Awful isn't it?

But apart from the odd glitch such as this, and the fact that it is a little dated by today's standards, it is a thouroughly absorbing adventure.

Presentation is also good with Uncle Cheez's diary and a letter of inheritance included in the package which helps add that personal touch to the game.

Overall, if you're not afraid of bumping into spiders, ghosts, goblins, moulding corpses or even the master of evil himself, you should have many hours of fun playing OOZE.

ADVANCED DUNGEONS & DRAGONS
A collection of interactive fantasy adventure games for PC's

A few years ago a cult game swept American colleges. It involved one person taking a role of a mythical hero and battling against the forces summoned by another player in the role of the Dungeon Master. It was the Dungeon Master's responsibility to create a believable world in which the game took place. TSR then transferred the game to a board version and called it Dungeons and Dragons. This later evolved into Advanced Dungeons and Dragons (ADD&D). It was only a matter of time before the format hit the computer screen. It was a natural choice for TSR to pick SSI - a company which is already well known for its own range of strategy and adventure games. The difference between board game and the computer game is that all the dice-rolling and table-referencing associated with the former are hidden allowing the player to concentrate on the action.

The first game off the rank was Pool of Radiance in the 'Forgotten Realms' series. It takes place on the northern shore of the Moonsea in the fabled city of Phlan which has been overrun by monsters led by a mysterious leader. Your quest is to discover the identity of this evil force and rid Phlan of its scourge. You create characters (differentiated by their Race, Ability scores and Class) to accomplish this task. Several characters make up a 'party' to complete the mission of which you may have a maximum of 6 under your control. An additional two can be 'met' or 'hired' as you go along. Creating characters is a very important part of the game as their attributes will have an effect on how the game is played later. When creating new characters, a series of menus are presented giving a choice of Races and Gender. The program then randomly generates ability scores for each character. They can be accepted or you can ask for another 'roll' or modify them yourself to match a particular AD&D game if required. 'Training up' sessions can also improve attribute points.

As you progress through the game, characters can loose or gain attribute points according to the work they have so far completed. This may mean, for example, that their 'hit points' have decreased in battle and so the character is now a little weaker. If they have solved a puzzle or generally progressed well, 'experience points' are increased and passing a particular number of points moves the character up

a level making it more proficient. For example, a cleric can influence a skeleton, zombie, ghoul or wight at the first level, but need to have reached the fourth level to have an effect on a mummy and the ultimate sixth level to have a chance against a vampire.

In addition to the rule book, an Adventurer's Journal is supplied with the game. This gives you lots of background information, rumours and maps (some of which may be accurate). Encountering elves and dwarves during travels could cause a few translation problems if you loose the translation wheel also supplied with the game.

Curse of the Azure Bonds is the next in the Forgotten Realms series. The party of characters is set up in much the same way as in Pool of Radiance, ranging from fighter, thief or cleric through to magic user. The game begins with a party of experienced adventurers who have been ambushed, captured and awake to find strange blue symbols on their sword arm (an azure colour) and a later discovery that when they glow they force them to do evil things which can get them into a heap of trouble. The quest therefore, is to find out who put this curse on you and release the bond.

At the outset you have no equipment but sufficient treasure to exchange for some important adventuring tools and weapons (if you can find the right outlets). During your travels the screen shows a 3-D style representation of the area through which you are passing and a panel listing the characters and their current 'state of health'. A further window provides the descriptions of locations or messages from people you meet. The story begins in the frontier city of Tilverton on the border between the great kingdom of Cormyr and scattered settlements of the Dalelands.

The game play format is similar to Pool of Radiance, though arguably more sophisticated. It will accept characters already created and saved from Pool of Radiance and Hillsfar. It will also accept characters created in Pool of Radiance or in Curse of the Azure Bonds and who have adventures in Hillsfar.

The third in the series is Hillsfar. After weeks of campaigning, your supplies and rations are all but exhausted. Your party has set up camp just

outside Hillsfar, a wealthy port city on the Moonsea. You were going to make a quick stop at the city to gather supplies and drop into the local guild. Alas, no weapons are allowed inside the gates and no 'training up' sessions can be held. The First Lord of Hillsfar rules with an iron fist and as such has few allies. Law and order are maintained by the mercenary guard, the dreaded Red Plumes.

Using only your wits and agility (and a little magic) like a true adventurer, you must grab every opportunity to gain wealth. How you achieve this depends upon how well you can figure out mazes, pick locks, ride a horse, squeeze information at the pub and overcome countless obstacles. Hillsfar takes you
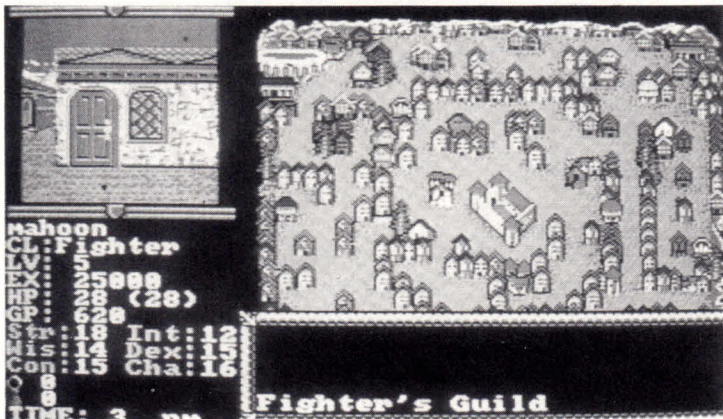
• Standing outside the Fighter's Guild in the town of Hillsfar.

through the guilds for each class of character, a cemetery, an archery range, sewers, a haunted mansion, the magic-user's tower, a castle and the Arena. The latter will see you fighting with poles and staves and only quick reflexes will get you out of trouble.

The Dragonlance series was born from the Dragonlance novels and a creation of the world of Krynn from a demand by players for more dragons. The first game is Heroes of the Lance and gives the chance to take part in the quest of the Companions of the Lance (led by Goldmoon, the Chieftan's daughter) as they begin their fight to save Krynn from domination by the Queen of Darkness. There's a deal of action against draconian hordes in hand-to-hand combat and magic dealing against monstrous spiders, skeletal undead and other terrors in the ruined city as you attempt to retrieve the Disks of Mishakal. It starts at the Great Temple of Mishakal where a statue of the goddess orders you to 'restore the balance' in Krynn by finding the Disks of platinum laying in a dragon's lair.

The second game in the series is called Dragons of Flame. The Disks of Mishakal have been recovered and Goldmoon installed as the first true cleric since. But the fight against the Queen of Darkness has not finished. The Companions of the Lance have to battle more draconian hordes and sneak through the caves of Sla-Mori into the fortress of Pax Tharkas. Here

they must recover the sword 'Wyrmslayer' and free the slaves held there to bind the forces of resistance.

Dragons of Flame introduce a number of other travellers (NPCs - Non-playing Characters) in the wilderness. Some may join your party, some may offer items to aid your quest. Others will attack! You need to keep your wits about you.

Since the introduction of the computer versions of AD&D, SSI have released two assistant programs (utilities) to be used in conjunction with the main games entitled Dungeon Master Assistant programs. The first - Dungeon Masters Assistant Volume 1: Encounters - is designed to ease the burden of a Dungeon Master who faces the task of populating a wilderness and/or dungeon(s) for a campaign. It does not replace the carefully designed major encounters of a campaign, but it removes much of the work of developing random encounters and population.

Encounters may either be called up randomly from a table based on a location of the encounter (swamp, desert etc.) or for a specific monster (orc, bandit etc.). The program can be used alone or in conjunction with the random monster encounter tables provided in the Dungeon Masters Guide. Encounters can be generated before a play session and be printed or stored on disk to be called up later. The program is menu driven and allows editing of encounters after the system has created them, creating your own encounters and monsters and/or modifying the databases and tables provided.

The second utility is Dungeon Masters Assistant Volume 2: Characters and Treasures. It is designed to speed character creation by both the player and the Dungeon Master and will create both Player Characters and Non-Player Characters. It is also designed to speed treasure generation by the Dungeon Master. For readers who know all about AD&D, they will be happy to discover that this utility generates characters with character classes form the AD&D Players Handbook including multi-class characters. It also generates Cavalier and Barbarian class characters from the AD&D Unearthed Arcana book.

As previously mentioned, the utility also generated detailed treasure lists and magic items such as jewelry (including size and type), magic items of all kinds, and treasure lists created from the standard treasure types found with an encounter. It also has the same editing facilities found in Volume 1.

That about brings you up-to-date with the AD&D software available for PCs. Hardened AD&D players will be pleased to see the list growing. If you are new to adventuring, it may be a little complicated at first, and as such, could have difficulty in getting to grips with the concept.

Don't give up! The more you play, the more proficient you will become, thus the more enjoyment you will get out of the games - not only in solving the game - but also in appreciating the finer points and almost infinite variety.

WEST PHASER
Let em' have it in this great Wild West shoot-out

PC Disk (CGA/EGA only) 5.25" or 3.5" - $89.95
CPC Disk - $69.00

Welcome to America of the 1870's. The wonder years when millions of pioneers migrated West to persue a wild adventure. The Gold Rush!

In this savage new territory, crime looms like a shadow over the innocent pioneers of the West striking fear into the hearts of millions. You are the law! Be brave, stay alert and never let your gun leave your side.

On opening West Phaser, the first thing you will notice is a shiny new six shooter included in the

• Don't be surprised if this guy doesn't buy you a drink!

packaging. Yes that's right, West Phaser revamps the old "light gun" idea to a height never before seen on a PC, or anything else for that matter.

After hastily unwrapping your gun and plugging it into the RS 232 port, you are presented with a menu screen allowing you to select the deputies for your mission (up to six) and a "wanted" table, showing you the list of bandits currently on the loose. All the legendary, western type names are here: Pat Garret, Wyatt Erp, Wild Bill Hickok, Doc Holliday and more infamous characters like Jessie James and Billy the Kid.

After making your selection, you will travel to California, Colorado, Arizona, New Mexico or wherever your culprit may be at the time. Once found, a typical western scene appears before you, and with the click of a spur, complete chaos breaks out. Cowboys, Indians, gamblers and just about any other desperado with a gun will try to get a bead on you. It's now time to use that itchy trigger finger of yours, despatching anyone who even tries to aim upon you, but be careful as there are only 36 rounds of ammo slung around your waist. You can sometimes replenish this along with your health by shooting the corresponding icons that appear on screen during the

game. If you manage to hold out for a time, your culprit will frantically appear, six gun poised, in front of you. Sink a few rounds into him (or her!) to collect your reward and move on to the next territory to drop further bandits. If you receive too many hits during the shoot-out your "lives" candle will melt away leaving you pushing up daises at Boot Hill.

Looking at the size and detail of the graphics in the screen-shots supplied, you'd be forgiven for being a little suspicious of the animation in this game, but lay your fears to rest as all the characters move surprisingly well. There's movement everywhere! My favourite is the Saloon where you can literally

• Choose your deputy.

shoot anything that appears on screen. Lanterns swing when hit, gunmen fall from broken railings, frightened barmen cower in the background and dancing girls, well, dance. Sound is great too with plenty of digitised gunshots and screams echoing throughout the game.

Overall, West Phaser is a fun, if not slightly difficult game with plenty of humorous touches that are sure to keep you coming back again and again.

• Little running bear wants your scalp.

At $89.95 it isn't cheap, but Loriciel promise more games soon which will utilise the gun so it looks at if West Phaser will be the first in a series of great gun-toting games for the PC. Go West young man!

SHORT 'N' SWEET
A quick look at some current PC games

KULT - 5.25" - $59.95

If you enjoyed Captain Blood or Purple Saturn Day then you'll probably enjoy Kult as well. It has the same particular icon-driven control and interaction of characters, plus the great graphics. You could be fooled into thinking that you have purchased a straightforward adventure game as the first part consists of five ordeals by puzzle which must be completed before you can go any further. The main quest is to fight off Protozorqs and rescue your friend.

Fortunately an Amstrad PC is supplied with a mouse which really is a must in this game. The screen consists of an icon bar on the right showing your powers and additional thoughts pop out from an on-screen brain.

The puzzles deal with searching for five skulls, each with an object to be collected. You can also collect others on the way, and look out for a really useful weapon for despatching the Protozorqs. You'll find the game quite addictive, the puzzles reasonably hard and the graphics well designed. The only minus is that you'll only get four colour á la CGA.

F-15 STRIKE EAGLE 2 - 5.25" OR 3.5" - $69.95

The original F-15 Strike Eagle was a good game when it was first launched in 1985 and has sold over half a million copies. When F-19 Stealth Fighter was
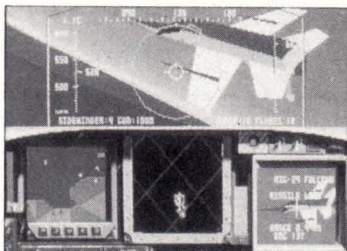
• F-15 Strike Eagle II

released, it made the old Strike Eagle look a bit jaded. Version 2 takes on a new dimension using the 256-colour mode in VGA. It really makes things much more realistic with horizon mists with colours fading into white. Added to this are digitised voices which add encouraging remarks with successful hits. You also get the chance to land properly, either on land or an aircraft carrier. It cannot really be compared with F-19 which Microprose admit is 'finesse in the air' as opposed to F-15s 'Rambo in the air', besides, F-19 is more expensive.

You get about 20 minutes worth of fuel, and it seems, unlimited ammunition to destroy the enemy in breathtaking VGA skies.

HORSE RACING - 5.25" - $59.95

Here's a game where you won't loose any money. It's a horse racing simulation where you can bet as much as you like with the knowledge that only you and the computer will ever know how much you loose! The aim is to win more than other punters

over a number of races or to a predetermined value of winnings.

The game presents a list of the form for each runner and rider and then gives you the opportunity to place your bet. (Being an American game some of the bets will have different names to those in Australia.) All bets placed and 'they're off' with the screen presenting a side-on view first then from above as the horses round the final bend. You get to see quite clearly the positions of each horse as they race to the finishing line, along with a read-out if you don't believe it. At the end of the race another screen presents all the punter's positions with winnings or losses and moves on to the next race.

Horse Racing is good fun in short bursts. It is not meant to be serious and the clever graphics keep it interesting. If you are a serious punter you'll need Pro-Punter, if it ever arrives!

POPULOUS - DUAL FORMAT - $59.95

This is quite an original game which was met with great success on the Amiga and Atari ST. It has been nicknamed 'How to be a complete god' as the game is set at the birth of two nations - one evil, the other good - who each worship their own god. Your role in all of this is to assume the mantle of one of the gods while the nations fight it out for survival.

Naturally your worshippers are the friendly ones, and believe they will become strong by multiplying. As the population increases you have to raise the land around them to accommodate them. While all this is going on, the other nation is doing the same thing and eventually the two nation's land masses will meet. Fighting will break out when both sides are after the same strip of land.

You can start to influence things (depending upon your strength) by making your people move to different areas, or simply take up weapons against their nearest neighbour. With more strength you can invoke earthquakes, volcanoes, swamps and floods to torment and reduce the enemy's population.

There are 500 worlds ranging from the freezing poles to the deserts of the equator and all look very impressive on the PC. You also able to play it via a communications line and RS232 interface with another remote human in a far away place.
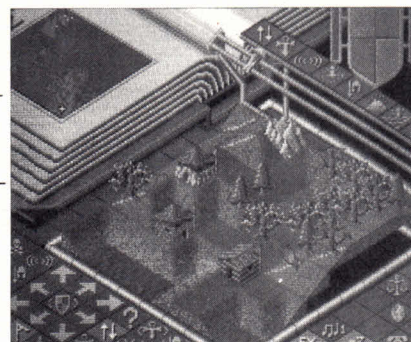
• Populous. Your chance to play a god.

THE NEW FORCE IN ENTERTAINMENT

Pactronics
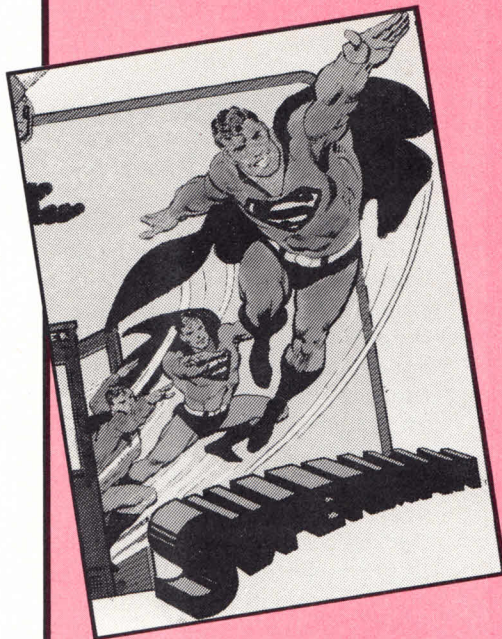
SUPERMAN

LOOK! UP ON THE TOP SHELF! IS IT A BIRD? IS IT A PLANE? NO!, IT'S SUPERMAN — MAN OF STEEL. The ultimate hero is finally brought to your monitor in the ultimate arcade-game. Fantastic newspaper cartoons introduce each of the segments that comprise the Man of Steel's battle against Darkseid and his cronies. Down on the ground, up in the air, or circling the Earth in outer space, the action never stops. Fight Evil and change into a Superman!! *PC, AMIGA*
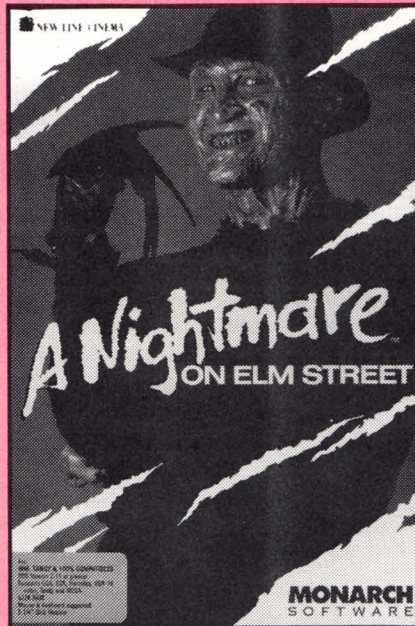
NIGHTMARE ON ELM STREET

And you thought moving into a new neighbourhood would give you a fresh start; new friends, new house, new neighbours. You only made one mistake, you moved into ELM STREET, Freddie's street. One by one, you watch your new friends consumed by Freddie's dreamtime madness. Now it's your turn. You sleep, and let the nightmare envelope you, dragging you into the endless twilight of Freddie's world. Once there, you move quickly, driven by something between fear and desperation, frantic to rescue your friends and vanquish Freddy! Can Freddy finally be killed? Use your dreampower to find out!

P.S. I forgot to tell you, the rules keep changing 'cause Freddy cheats! *PC*
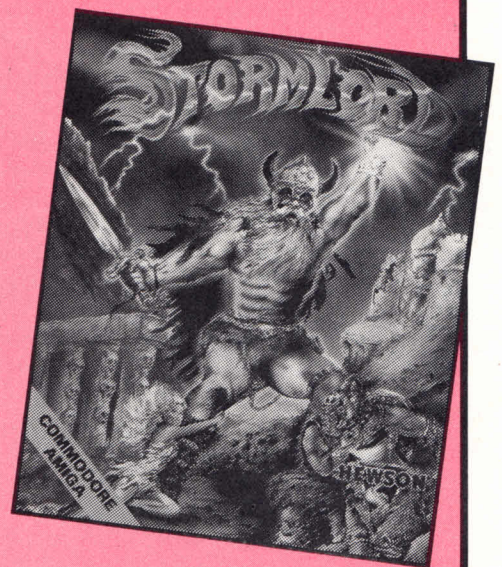
STORMLORD

It used to be nice here. The land was green, flowers bloomed, birds sang, all under the STORMLORD's watchful eye, and under the calming gaze of the faeries. Now, strange hideous creatures fill the land; never dead skeletons, gargoyles and menacing wizards block your path in the quest to liberate the captured faeries, and restore calm to the realm of the Stormlord.

Set against brilliant backdrops and with amazing sound effects, STORMLORD combines puzzles with strategic elements in a stunning arcade masterpiece. *CPC*

YOUR FAVOURITE FILM AND CHARACTERS ARE HERE

GARFIELD'S WINTER TALE Garfield sets off in search of the CHICKEN THAT LAYS THE CHOCOLATE EGG. Or is this just a calorie-laden dream. **CPC**

SNOOPY "Sherlock" Snoopy is on the case in search of the missing security blanket. **CPC**

MIAMI VICE This is crime fighting, Miami-style. Join Crockett and Tubbs, forget the socks and grab the Ray-Bans. **PC**

SEARCH FOR THE TITANIC The most infamous shipwreck in history is lying out there somewhere. Fit out your mission and then sail in SEARCH FOR THE TITANIC. **C-64, PC**

SPACE RACER In the future there are no wars. Only the SPACE RACES. **CPC**

OOZE Brilliant graphics, and a great plot, the adventure of your after-life. **PC**

TURBO CUP A Porsche 944, a race track and you! What's stopping you? Fantastic saloon car racing game supplied with die-cast model 944 Porsche. **PC**

Dissecting your hard disk

►　►　►　*Upgrading to a hard disk is easier said than done as David Harley shows you how to successfully manage your new toy.*

This is a short piece aimed at either new PC users, especially those with hard discs, or people who've just upgraded to hard disc and are a little bemused by the move from A to C.

There are any number of strategies available to the new hard disc owner for effective manangement of her/his new toy. The first essential is to organise the hard-drive into manageable-sized and sensibly-organised subdirectories.

This is ground which has been covered many times very adequately elsewhere, and I don't propose to repeat it on this occasion.

Having got to this point, it becomes a matter of urgency (unless your memory is better than mine) to introduce a system for accessing the software now installed without undue trial and error while you navigate your various directories. It may be undue trial and error while you navigate your various directories.

It may be sufficient to assemble one or two pithy batch-files to get you from the opening prompt to having the program you want up and running with a few key-strokes: indeed, this what I've tended to do myself in the past. However, if you have a wide variety of software on a fairly large disc, or if you have comparatively few programs that you use regularly but which you may need to use in a number of different ways (arguing several batch files accord-

ing to which parameters seem appropriate), or if other people use your machine and are not so well-acquainted with its geography, then a more formal organisational strategy becomes necessary. You could use a commercial file-management package such as the Norton Command or XTREE a shareware/PD package such as QDISK or CWEEP, or set up a menu system with packages such as MENULITE (easy) or DISCO (more sophisticated).

Van Wolverton's book Super-charing MSDOS gives exhaustive details of how to set up a multi-level menu system, essentially using batchfiles with the use of one or two little .COM files.

There are advantages to all these approaches; however, what I propose to do here is to demonstrate how to set up a simpler menu structure on a hard disc, again by using batch-files, but without relying on external programs. In essence, this is a 'quick and dirty' system which can be set up in a few minutes. My hope is that even if you don't choose to use this system, you may get a better idea of what other systems are doing and come to some useful conclusions on implementing your own file management system.

Obviously the details of your system will differ from mine according to the configuration of the machine you're using and the programs you wish to use. Also, if

you don't have a hard disc, you will probably be less concerned with the sort of complex sub-directory structures needed by hard disc users.

However, such a system can easily be adapted to work with a particular floppy disc (or more than one disc) rather that with a sub-directory: in fact, you could think of a sub-directory as being an imaginary disc within another disc. Indeed, later versions of DOS actually allow you to assign a drive letter (e.g. E:) to a sub-directory so that you can access it in precisely this way: this is done with a command called SUBST which I don't propose to give further attention here.

Now, let us assume a theoretical hard drive including the following sub-directories: (any resemblance to real software is, of course, purely coincidental).

\XBASE
(contains a well known database package)

\STATS
(contains a number of statistics packages)

\MOUSDOS
(contains most of the programs which constitute the MOUS DOS operating system)

\WP
(contains two other sub-directories, \WP\WS4 and \WP\WIF

containing the word-processing packages Woadstir 4 and WoadImperfect)

\TURBOT

(contains Turbot C and associated programs)

\LETTUCE

(contains your spreadsheet, Lettuce 1-2-3)

\GAMES

(contains the less serious software with which you untangle your weary neurones after a hard day's data- scrambling. Let us suppose that this includes your two favourite games, PLASTIC GNOMES OF PHOBIA and MICROSOFT TEAPOT SIMULATOR.

Where the directory indicated in the menu contains one main program, a particular sequence of commands will usually be used to start that particular program, so we will consider these instances first. Suppose the necessary sequence of commands to start these programs is as follows (I am assuming that we have just started the machine and are in the root directory on that drive):

```
1. XBase 14+:
      CD\XBASE
      XB

2  Turbot C:
      CD\TURBOT
      TURBOT

3. WoadStir 4:
      CD\WP\WS4
      WS

4. WoadImperfect:
      CD\WP\WIF

5. Lettuce 1-2-3:
      CD\LETTUCE
      LET

6. PLASTIC GNOMES:
      CD\GAMES
      GNOME

7. TEAPOT SIMULATOR
      CD\GAMES
```

TEAPOT

First of all, we need to create a file called MENU, which consists of the menu-choices available as follows:

SELECTION	KEY TO PRESS
xBase 14+	1
Turbot C	2
WoadStir 4	3
WoadImperfect	4
Lettuce 1-2-3	5
Stats Menu	6
Games Menu	7
System/Utilities	8
Quit menu system	9

Hit appropriate number key and ENTER key to continue.

The final entry in this menu (9) is purely a matter of programming style: since this system is based entirely on batch files and simple text files, you can quit the system (i.e. the current batch file) at any time by pressing Ctrl and C together, and the batch file 9.bat consists entirely of the message:

```
ECHO QUITTING MENU SYSTEM
PAUSE
```

It is included on the assumption that you may, at some point, want someone else to be able to find their way around your hard disc who may not be as computerate as yourself, and may therefore sit there wondering how to get out of a menu they didn't know was there.

In any case, there is nothing worse than entering a program, and there being no apparent way of quitting it, short of re-booting, even if you're not prone to computer-illiterate's panic (except perhaps the knowledge that you've just inadvertently reformatted 120Mb of hard disc).

This file, like the batch-files which follow, can be created with any word processor which can produce a simple ASCII text file. It should not contain any special formatting codes such as commands for italic print or boldface, though it can use the extended

character set (e.g. the box-drawing characters).

Next, we create a batch-file called M.BAT, containing the following lines:

```
CLS
TYPE MENU
```

Now, if you type M carriage-return at the C prompt, the screen should clear and then the file menu is displayed. Of course, it would be better if the menu was displayed automatically every time the system is booted. This can be done with a special batch-file called AUTOEXEC.BAT. Every time the system is booted, the computer checks to see if a file with this name exists and, if it does, the commands it contains are executed.

In this case, if the file already exists, we insert the line M (probably ask the last line of the file, but it will depend on what else is contained in the file), so that the file M.BAT is executed as above. If it does not exist, we can create a file called AUTOEXEC .BAT which will consist only of the line:

```
M
```

Alternatively, we can insert the lines:

```
CLS
TYPE MENU
```

straight into the AUTOEXEC .BAT file and dispense with the file M.BAT altogether, but I would be disinclined to do this for reasons explained below. If I haven't forgotten to tell you anything, a menu will now be displayed every time the system is booted. However, as it stands, pressing the number key associated with each option will not have any useful effect.

If we create the files 1.BAT, 2.BAT, 3.BAT, 4.BAT and 5.BAT, each consisting of the sequence of commands associated with the corresponding program, then, as we've seen, pressing the key 1 (followed by the carriage-return

key, of course)should start xBase 14+,2 should start Turbot C,3 should start WoadStir, 4 should start WoadImperfect, 5 should start Lettuce, etc.

These are of course very primitive as batch files go: most of them simply go to the appropriate directory and start the main program. However, you may wish to set up appropriate submenus to allow more choice of parameters.

You might have a number of unrelated databases in your xBase directory such as FONEBOOK, LPS, RECIPES and FLOPPIES. If the theoretical xBase allows you to enter a filename at the command line you may want to set up separate batch files to allow you a choice of frequently used parameters, along the lines of:

```
CD\XBASE
XBASE FONEBOOK
CD\XBASE
XBASE RECIPES
```

to allow you to look up your Great-Aunt's fax number or your favourite recipe for nutroast au vin. In this case, it would be better if 1.BAT actually went to the XBASE directory and offered a menu of choices such as:

SELECTION	KEY TO PRESS
Load xBase	1
Run recipes	2
Run fonebook	3
Return to main menu	4

and corresponding batch files created within the directory to execute these options. We can, of course, use the names 1.BAT etc. again, since these batch files are in a different directory to the previous files.

In the case of other directories, again, we may want to run one of several programs. We must therefore create further menu screens for each of these directories, which we do by, for example, creating other files called MENU2 (which should be in the STATS directory, MENU 3 (which should be in the MSDOS directory) and MENU4 (which should be in the

\GAMES directory). We must also create more files called 6.BAT, 7.BAT and 8bat, which read, respectively, something like:

```
CD\STATS
CLS
TYPE MENU2
```

and

```
CD\GAMES
CLS
TYPE MENU4
CD\MSDOS
CLS
```

```
TYPE MENU3
```
MENU2 might read:

SELECTION	KEY TO PRESS
EGO STAT	1
DOUBLE-BASSIST	2
MOGGIETAB	3

As you might guess, these indicate batch-files called 1.BAT, 2.BAT and 3.BAT (again, it is possible to re-use these filenames) containing the command sequences necessary to start the relevant programs. Similarly, MENU3 would run something like:

SELECTION	KEY TO PRESS
FORMAT	1
DISKCOPY	2
CHKDSK	3
TREE	4

etc. and MENU4 might read:

SELECTION	KEY TO PRESS
GNOMES	1
TEAPOT	2

RETURN TO MAIN MENU

One of the limitations of this sort of system is that once you go from one batch file to another, the first batchfile terminates. There are several ways round this, but one is to add the line:

```
CD\
TYPE MENU
```

to the end of the batchfiles 1.BAT etc. so that the initial menu is redisplayed (the first line changes the current directory to the root

directory, so that any of the files called 1.BAT (e.g.) will take you back to the original menu, whichever sub-directory you happen to be in. If you are already in the root directory, the line CD\ won't do any harm! If you are in a subdirectory with its own menu, you may prefer to finish batch files within that directory with the line TYPE MENU3 (e.g.) to run that menu again, and include an option changing the current directory to the root directory and displaying \MENU rather than a sub-menu. It is to enable you to re-display the menu that I suggest that you use the batch-file M.BAT rather than write the commands it contains directly into the AUTOEXEC.BAT file.

To run a similar system on a twin-floppy system with no hard disc, the principle is similar, but the file MENU would probably be on the boot-disc in drive A: and the other batchfiles might read something like:

```
B:
XB
B:
WIF
B:
TYPE MENU2
```

according to which was being run. The boot disc would probably be removed from drive A after the batch-file was run so that the program called by the batchfile could use a data disc in drive A: there would tend to be a lot more disc swapping (even more so on a single drive system) and the structure of command sequences given here is rather simplistic for such a system. However, you will often find that running applications on a floppy drive system requires rather more keyboard-work than the examples here indicate, and it is in precisely these circumstances that batch-files come into their own. In fact, the GEM discs supplied with the Amstrad work pretty much in this way on a standard floppy-drive system. ∎

What's new in PD

▶ ▶ ▶ *Chris Collins brings news of upgrades in the shareware and PD scene including some great new games for EGA users.*

Hello out there. Well, it's that time of the month again. Compatible's Corner has rolled around, hoping to be able to bring you the latest and greatest in shareware and public domain software. Also, a bit of news as well.

This month's upgrade news includes the following juicy little programs:

PC File:dB v2.0:- This new release of PC File is now out. But contrary to all expectations, it isn't called PC File:dB v2.0 but PC File v5.0. This is totally against all rumours that were floating around about it. But whatever it is called, the new version looks as if it will continue the great tradition that has been set by the previous versions.

Some of the new features include: Up to 5 entry screens for each database, mouse support, a global search that will search *ALL* fields in the database, telephone dialling, up to 9 user created indexes per database, wordwrap on long character fields without splitting a word in the wrong place (finally), Wordperfect 5.0 import/export, Postscript support from graph printing and heaps more. For registered users, the upgrade price is only US$44.95 but then you registered users already know that, don't you?

One rumour to come from the States regarding PC File is that this will be the last character based release. The next version will run under either Windows or GEM, more probably Windows. Expect the other Buttonware products to eventually go the same direction.

AsEasyAs:- This has now been upgraded to version 4.0. For the people who have ordered registered version, please forgive the delay in getting them to you but I was waiting for the new version. Registration price has now risen to AUS$90.00. However, the new features more than make up for the increased price. Version 4.00 now supports up to 8192 rows * 256 columns, as well as spreadsheet linking, great new graphics commands, but unfortunately still does not support VGA graphics. All together a good upgrade, but still a few things missing. People ordering AsEasyAs after February 1, will have received the

new version. If you wish to upgrade to v.4.0 please send your original MacroDisk diskette and $3.00, and it will be forwarded to you ASAP.

PC Write:- This has just had a bug fix release up to version 3.03. All people ordering copies of PC Write after February 1, will be receiving the new version. If you wish to upgrade your current copy of v3.0, please send your three original diskettes with $6.00 and I will forward the new version to you. If you have an earlier version than 3.0 send your two diskettes and $11.50 and you will receive the newest version.

Telemate v2.0:- Telemate has now jumped up to version 2.0. This is a mouse driven communications program that I have only had a short time to look at, but it appears to offer a lot of features at a reasonable price. The new version is on two diskettes and cost $15.00. It will be better reviewed in the coming months.

I can't think of any more upgrade news at the moment, but stay tuned and you will receive it as it arrives. Now onto the diskettes for this month.

Onto this month's diskettes, and it is another special for those EGA users out there. EGA Games 4, 5 and 6 have been released.

EGA GAMES 4

This is the fourth in a collection of games specifically written for the EGA card and monitor. It includes the following games;

OTHELLO:- Obviously this is a game of Othello. For those of you that don't understand, Othello (also called Reversl) is a game where you must trap your opposition tiles in between two of your tiles. Good fun, but the outcome of the game can change in one move. This one will also let you use a mouse to place your tiles.

MAHJONGG v2.6:- This is version 2.6 of the great Mahjongg game from the US. A couple of new features have been incorporated to make it even better to play. Rumours have it that v3.0 has been released.

CFB:- Cunning Football is a menu driven interac-

tive game of football. Before anyone asks, please remember that this is American Football or Gridiron. Not bad, but not really to my taste.

FLEES:- This is a simple shoot-em-up style of program similar to Galaxian. In fact, this is probably the closest thing that I have seen. Good fun to play, but it gets a bit boring after a while.

EGAWHEEL:- An EGA specific version of Wheel of Fortune. Good graphics, and it plays well, but I am not really into this sort of game.

BIORYM:- is a Biorhythm generation program

EGA GAMES 5

This is the fifth in this collection of games specifically written for the EGA card and monitor. It includes the following games;

SLITHER:- This is a game about a snake that has been injected with a super growth hormone. He must run about the place eating the lab rats to survive, but beware of eating anything else!

ATC:- Air Traffic Controller puts you in the position of an Air Traffic Controller trying desperately to control a whole heap of blips on a radar screen.

SOLITAIR:- Simply a version of solitaire for a single person to play. It is mouse driven, and the game play is very good.

BLACKJAK:- This is a mouse driven game of Blackjack. Unfortunately the graphics are not very good on my Paradise VGA Professional, and this is the disappointing part of the program. EGAs are high resolution and if people intend to program for EGAs, they should use the facilities available in the card.

EGAWHEEL:- Somehow this also got onto this diskette as well. I don't know how, but if I can find a program to replace it, I will.

EGA GAMES 6

This is the sixth in this collection of games specifically written for the EGA card and monitor. It includes the following games;

EGAPOKER:- Not a bad version of Poker. The graphics are excellent, and this appears to be by the same author as SOLITAIR. Written in Turbo Pascal.

FORTUNE:- This is a different version of Wheel of Fortune, but it plays much the same way.

EGA-GAM:- This is the best graphical version of Backgammon that I have seen. Only the EGA seems to be able to show off Backgammon as it should be shown off.

QUINTA:- This is a game that requires that you get five of your tiles in a row to win. Similar to PENTE, GO-MOKU and others, the excellent graphics make the game fun to play.

SLITHER:- Here we have another duplicate of the EGA Games 5 diskette. I must have been having a bad day when I set up these diskettes. Will be changed to another if I can arrange it.

WISH25:- This is a petroleum prospecting game, and basically I can't get into it. But for others, well it may be fun. Runs in CGA or EGA.

BUICK TEST-DRIVE

This is an American automobile program from The Buick Motor Company. It shows off two of the new models available from Buick, lets you work out purchase prices with options and much more. Also, lets you go for a test drive on the screen. This one occupies two diskettes and requires a hard disc drive to function quickly enough.

PFS FONTS

I now have available another four diskettes of fonts for First Publisher owners. These are called PFS Fonts 3, PFS Fonts 4, PFS Fonts 5 and PFS Fonts 6. The fonts that are available in these font files are listed below, along with the point sizes available in each style.

PFS Fonts 3 contain the following font files:-
MASTER2A.FNT contains:

CELTIC	12/18/24/36/48/72
FUTURE	9/12/18/24
HAM	14
HUMANISTIC	18/36/48
KANSAS	10
LED	24
MACICONS	12
MCCLOUD	36
MYSTIC	14 (Bold)
OPHIR	12/24
PLAYBILL	12/18/24

MASTER2B.FNT contains:

SQUARE SERIF	24
SANTIAGO	12
SCIENCE FICTION	12
SCOTTISH	12/24
STAR FLEET	9/12/18/24
STEEL BRUSH	12/24/36
STILETTO	14/28
TIFFANY	12/24
UNCIAL	12
VANCOUVER	9/10/12/14/18/20/24
VIENNA	18
WHITESTOWN	9

PFS Fonts 4 contains the following font files:
MASTER3A.FNT contains:

BOSTON2	9/10/12/14/18/20/24
CALLIGRAPHY	12/18/24
CANTERBURY	36 (Normal, Italic & Bold)
PARK AVENUE	18
SCRIPT	12/24
SHOPPE	24
TECH	9/10/12/14/18/20/24
TORONTO	9/12/14/18/24
TOYLAND 1	36
TOYLAND 2	36

MASTER3B.FNT contains:

TINY	12

RUNES	12/24		SPOKANE	18	
RANGERS	18		WHITE SHADOW	48	
ABERDEEN	12/24		TOMBSTONE	24	
DALI	24		RIVENDELL	14	
EPSILON	12/18/24		THOMAS	10/12/20/24	
FLETCHER	12/18/24		ASCII	12	
FANCY CAPS	72		ARABIC	12	
DEMOGRAPHICS	36		BLACK SHADOW	48	
ELVISH	12		ABU DHABI	24	
FINNEY	12/24		BASEL	24	
DEMOTIC	20		PROVO	10/12/24	
FARGO	48		KLINGON	24/48	

PFS Fonts 5 contains the following font files;

MASTER4A.FNT contains:

CARTOON	12
CREAMY	10/12/20/24
CURSIVE	12
CAVANAUGH	18/36
CIRTH	48
CLINTON	24
CANDY	24
CENTURA	9/12/18/24/36
ATHENS	12/18/24/36/48/72
APPLE 1	18/36
ALICE	9/12/18/24
ART DECO	9/12/18/24/36
ASTAIRE	9/12/18/24

MASTER4B.FNT contains;

MUSIC	9/10/14/18
LINEAL	18
ICON 1	12
ICON 2	12/24
FINGERSPELLER	72
GENJI	12
GANGSTERS	18
GIANTS	18
GRAFIK	12
GREEK	12
HOLLYWOOD	24
EON	12

PFS Fonts 6 contains the following font files;

MASTER5A.FNT contains:

CRETE	9/12
GODFREY	12/24
ISENGARD	18
MEMPHIS	24
HAMBURG	24
LAS VEGAS	36
HOUSTON	36
HEBREW	12/24
CIRCUS	12/18/24/36
CAMELOT	12/24
COPTIC	10/20
GORDON	24

MASTER5B.FNT contains:

PREMIERE	24

MASTER5C.FNT contains:

MUNICH	36
FASTASTEI	18
PALO ALTO	36
TILE	18/24
PADOVA	12/24
RAVENNA	12/24

As you can see, there is a lot of variety in the fonts listed above. Please remember that you must copy MASTER.FNT to another name, before you copy any of these font files to MASTER.FNT for use with First Publisher. You can also move any of these fonts into your own custom font files if you wish (using FONTMOVE.EXE), but remember that you can only have a maximum of 15 fonts in a .FNT file.

Well that's about it for this month. I hope that you enjoy the diskettes that I have spoken about this month, and until next we meet, BYE!!! ■

Crunch time!

Phillip Riley explains last months "shrink" program, plus more questions and answers for adventure addicts.

This month we will be taking a look at graphics as promised last time. What did we actually do to the screen? We changed the size and co-ordinates of the screen. By using the OUT command to address the CRT controller directly.

While what we did with this program has no real practical use it can be used to produce some interesting effects. For instance you could shrink the screen down then change the picture (the screen will still act as normal even though you cannot see it) then bring it back to normal size and co-ordinates.

But before we start looking at uses, let us look at how it works. We use two addresses followed by various numbers. The first address (&BC00) selects the register that we wish to use, the second address (&BD00) is the value that we wish to put into that register. What are the registers I hear you ask? The registers control the screen. There are in fact 18 registers of which the system uses 16. The registers are all listed later along with their normal values (these are the values that the registers contain when you do either a cold start or warm start).

Do not worry too much about the mathematics that are used after some of the OUT commands to set up the value in the register, they are merely there to keep the screen in the right place and are not totally important.

You may notice that line 20 sets up the zero key on the numeric keypad to equal a whole lot of out commands. I put this in to enable me to reset the computer screen to normal if anything went wrong. You will find that as you experiment with the registers you will be stuck with many strange effects on the screen that you will not be able remove unless you either reset the computer or have an emergency button like this.

The next point that I would like to make is that you should start experimenting with these registers to see just what effects you can get, do not worry, you will not do any damage to your computer's innards although you may make it feel a little ill at times.

So the next big question is what are the registers? Well here is the list for you.

REGISTER	FUNCTION	NORMAL VALUE
0	Horizontal total	63
1	Horizontal displayed	40
2	Horizontal Sync position	46
3	Sync width	142
4	Vertical total	38
5	Vertical total adjust	0
6	Vertical displayed	25
7	Vertical sync position	30
8	Interlace mode and skew	0
9	Maximum scan line	7
10	Cursor start	0
11	Cursor end	0
12	Start address (H)	48
13	Start address (L)	0
14	Cursor register (H)	192
15	Cursor register (L)	0

Now that we have got the boring bit out of the way we will now look at a couple of little proggys that will get you started on using OUT commands.

BORDER 0:OUT &BC00,2:OUT &BD00,42

This moves the screen to the right so that the edge of the screen is one character width off the edge of the monitor.

BORDER 0:OUT &BC00,6:OUT &BD00,24

This reduces the number of visible lines by one. The bottom line is still there and can still be written to, you just cannot see it.

Now onto other things, Tanya Lano wanted to know if TAU stocked certain Infocom games. Unfortunately the answer is no (see the mag for the full list of software and hardware). The only suggestion I can give you is that you try your local dealer.

Darren Bruggeman has just completed his first adventure (Bastow Manor) and is now contemplating his next one. He would like a few details on Time and Magik trilogy and the Adventure 4-pack.

The 4-pack is a compilation of 4 text adventures

written in England when the Amstrad was still fairly new. As such they are not as well written as some newer games that are produced today. They are however good value for money and very good for the beginner.

T&T is a much more recent addition to the software lists. The disc version does have graphics but you will need a 128K of memory to run it, if you only have 64K you will have to go for the tape version. You will find the problems in T&T more challenging but still this is what adventurers like. In the end Darren, the choice is all yours, but remember that help in the attic is only a letter away.

Well that's it for another month, and so until next time keep on adventuring and don't go upsetting any man eating monsters they can get rather upset sometimes.

QUESTIONS

Tanya Lano has some questions for Zork II. How do you get past Cerberus? How do you get the red sphere? How can you open the vault? How do you summon the demon?

Tanya also has some questions for Mordons Quest, how do you get the cigar? Of what use is the newspaper? How do you get up the shaft?

To complete the hat trick Tanya also has some questions for Ingrids Back (part II). How do you make the bread (she has no sack of flour)? How do you get

the object in the well? Are the guinea pigs of any use?

ANSWERS

Rosalie McDonald has some answers for The Pawn.

How to find the lamp - There is no lamp as such, but if you deal correctly with the guru you will find three colours which, when mixed together will provide the light needed.

How to get into the palace without being chucked out - The answer is you don't but you still should deliver the note.

What to do with the adventurer - You kill him (shame on you Rosalie). To do this you must ask Kronos about the wristband at the beginning of the adventure and accept what he gives you.

How do you shift the boulders - Using the shirt, tie the hoe and rake together and then lever the boulder.

What to do with the guru - To get anywhere with the guru you must first cover the wristband. Then listen to him, take the bowl, fill it will snow and return.

For those of you who are stuck trying to get the harp in Lancelot Rosalie offers you this advice. Use the 'WAIT' command. Tell a knight to "WAIT 1 AND GO N", then take the harp. This allows you to get away instantly before the mermaid can take the harp. ∎

ADVENTURER'S CONTACT LIST   *(Please don't abuse the help being offered)*

NATIONWIDE USER GROUPS

WESTERN AUSTRALIA

AMSTRAD USER GROUP (BUNBURY)
Chairman: Brian Ballard (097 217 199)
Secretary: John Cohen
Venue: 90 King Rd, Bunbury on the 3rd Saturday of every month at 3pm.
Mail: P.O. Box 77, Brunswick Jn., WA 6224.

AMSWEST (Perth)
President: Thelma Ardron (09 361 8975)
Vice Pres: John Firth (09 364 1360)
Secretary: Neil Miller (09 272 3994)
Asst. Sec.: David Ammon (09 448 5378)
Treasurer: Darryl Dunlop (09 448 6440)
Venue: 293 Bagot Road, Subiaco 6008 on the first and third Tuesdays of each month at 7.30.
Mail: 6 Weston St., Carlisle. WA. 6101.

VIC CHIPS USER GROUP
(Amalgamated with Rockingham Quingana Group)
President: Des Nichols
Secretary: Val Hoeksemo (09 527 7426)
Venue: Malibu Special School. Malibu Rd, Waikiki every Tuesday at 7.30pm.
Mail: PO Box 540, Rockingham WA 6168

SOUTHSIDE AMSTRAD USER CLUB
President: Brian Purser (09 398 1168)
Secretary: Lynda Blissett (09 459 6448)
Treasurer: Eric Tytherleigh (09 390 8865)
Venue: Huntingdale Primary Sch., 85 Matilda St, Huntingdale every 2nd and 4th Wednesday of each month from 7.00 pm.
Mail: The Sec., Southside Amstrad Users Club, 25 Haffner Crt, Maddington, WA 6109.

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

SOUTH AUSTRALIA

AMSOUTH AMSTRAD USER'S GROUP
President: Drew Ames (085 371 0151)
Treasurer: Bob Bleachmore (085 56 2048)
Secretary: Will Vaughan after 6pm: (08 382 8312)
Venue: Christies Beach High School, Western Section,Beach Road, Christies Downs (adjacent to Staff Car Park off Mander Road) every 2nd Wednesday at 7.30.
Mail: PO Box 612, Noarlunga Centre, SA 5168.

AMSNORTH AMSTRAD USER'S GROUP
Organisers: J.T. Clarkin (08 262 6342)
R. Britton (08 258 7861)
Venue: Lacrosse Hall, Terama Street, Gepps Cross every Wednesday at 7.00 p.m.

AMSTRAD COMPUTER CLUB INC. (SA)
President: Ross Barker (08 374 0565)
Vice Pres: David Simpson (08 373 1693)
Vice Pres: Paul Beard
Treasurer: Les Jamieson (08 356 9612)
Secretary: Debra Dienelt (08 339 1314)
Venue: Torrensville Primary School, Torrensville every tuesday between 6.30 & 9.00pm.
Mail: PO Box 210, Parkholme, SA 5043.

NORTHERN COMPUTING SOCIETY Inc.
President: Valerie Clarke (08 248 4031)
Vice Pres: Tony Mackereth (08 281 3968)
Sec./Treas: Graham Brewin (08 258 5320)
Venue: Drop-In Centre, Salisbury North Primary School, cnr. Bagster & Woodyates Rds every Wednesday from 7.00.
Mail: PO Box 482, Salisbury, SA 5108.

VICTORIA

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

EASTERN AMSTRAD USER GROUP Inc.
President: Tony Blakemore (03 890 3116)
Secretary: Stella Muir (03 723 1139)
Treasurer: Les Kovack (056 234 836)
PCW rep: Ron Hawthorn
Venue: St. Ninian's Church Hall, cnr. McCracken Avenue and Orchard Grove, South Blackburn on the1st Sunday of each month from 1.00pm.
Mail: PO Box 583, Croydon, 3136.

GEELONG AMSTRAD USER CLUB
President: Arthur Pounsett (052 78 2160)
Vice-Pres: Arthur Vienna (052 78 6736)
Secretary: Tony Sowinski (052 78 9418)
Venue: South Barwon Community Services Ctr, 33 Mount Pleasant Rd, Belmont on the first Wed. of each month, from 7.30p.m
Mail: 12 Strathire Gardens, Hamlyn Heigts 3215

GOULBURN VALLEY AMSTRAD USERS CLUB
President: Roger Tacey (058 23 1449)
Secretary: Rod Raven (058 21 9034)
Treasurer: Bev Felton (058 21 2703)
Venue: North Shepparton Community House, Olympic Ave. Every 3rd Thur. from 7:30pm
Mail: P.O. Box 1713, Shepparton 3630.

MOUNTAIN DISTRICT AMSTRAD USER GROUP Inc.
President: David Jamieson (03 870 1016)
Treasurer: Ian Pearson (059 965 019)
Secretary: Ian Pearson (059 965 019)
Venue: Country Womens Association Hall, 4 Sundew Avenue, Boronia from 7.00 p.m. every 2nd & 4th Monday of the month.
Mail: PO Box 132, The Basin, Vic 3154.

SOUTHERN AMSTRAD USER GROUP Inc.
President: Gerry Goody (03 786 3489)
Secretary: Bob Patterson (03 786 6976)
Treasurer: Geoff Wales (03 786 9212)
Venue: Karingal Tennis Club, Gretana Crescent, Frankston every third Tuesday at 7.30pm
Mail: The Sec., PO Box 100, Seaford, Vic 3198.

SUNBURY MELTON AMSTRAD USER GROUP
Contacts: Wayne Urmston (03 744 2719)
Norman McEntee (03 743 7104)
Venue: Toolern Vale Hall, Toolern Vale every third Saturday of the month at 10.00 a.m.

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

WESTERN AMSTRAD COMPUTER CLUB
Contact: Noel Sutherland (03 369 5480)
Venue: Fairbairn Kindergarten, Fairbairn Road, Sunshine on alternate Tuesdays from 6.30pm.
Mail: PO Box 161, Laverton 3028.

ACT

CANBERRA AMSTRAD USER'S GROUP
Convenor: Paul Kirby (062 86 5460)
Secretary: James Gifford (062 47 5126)
Treasurer: Rod MacKenzie (062 54 7551)
Venue: The Oliphant Building, ANU, Canberra on the first Tuesday of each month from 7.30 pm.
Mail: PO Box 1789, Canberra , ACT 2601.

NEW SOUTH WALES

BLUE MOUNTAINS AMSTRAD USERS
President: Bob Chapman (047 39 1093)
Vice Pres: Dennis Shanahan (047 39 4568)
Treasurer: Peter Traish (047 53 6203)
Secretary: Malcolm Stone (047 51 2791)
Jun. Rep: Nathan Stone (047 51 2791)
Venue: Springwood Neighbourhood Centre, Macquarie Road, Springwood on 2nd and 4th Wednesday of each month at 8.00pm.

COFFS HARBOUR AMSTRAD COMPUTER CLUB
President: Bruce Jones (066 52 8334)
Secretary: Colin Jones (066 49 2127)
Treasurer: Brian Claydon (066 49 4510)
Venue: Orara High School, Joyce Street from 7.00 on the first Friday of each month.
Mail: 169 Beryl St, Coffs Harbour, 2450.

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

ILLAWARRA COMPUTER USERS CLUB
President: Mark Jones (042 29 2109)
Secretary: Neville Dillon (042 56 2642)
Treasurer: Steve Astill (042 71 5462)
Librarian: Peter Platts (042 56 1956)
Venue: AGA Gremania Club, Berkeley at 2.00 pm. evey third Saturday of the month.

LISMORE DISTRICT AMSTRAD COMPUTER CLUB
President: Tom Wright (066 291 302)
Secretary: Russell Bell (066 216 888)
Treasurer: Deborah King (066 864 424)
Librarian: Ben King (066 864 424)
Venue: Goonelabah Public School, Ballina St. on the last Tuesday of each month from 7pm.
Mail: PO Box 771 Lismore, NSW 2480.

PARKES COMPUTER USER GROUP
Contact: Eileen Magill (068 643 285)
Mail: North Gunning, Gunningbland, NSW 2876.

S & W MILLER AMSTRAD USER'S CLUB
President: Wal Sellers (049 33 5459)
Secretary: Nikki Lee (049 33 5459)
Treasurer: Georgina Todd (049 66 2788)
Venue: Maitland Park Bowling Club, Maitland on the second Tuesday of each month at 7.30pm.

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

NEWCASTLE AMSCLUB (USER GROUP)
President: Bill Simkus (049 52 4638)
Secretary: Rex Morris (049 62 1221)
Treasurer: Roy Hannon (049 51 3167)
Venue: Waratah-Mayfield RSL Club (upstairs room), Hanbury St, Mayfield on the first and third Tuesday of the month at 7.30pm.

PCW AUSTRALIA GROUP
Secretary: Clyde Gittins (02 579 3984)
Treasurer: Geoff Bolton (02 745 2230)
Venue: Burwood RSL Club, 96 Shaftesbury Road, Burwood every second Tuesday of the

NATIONWIDE USER GROUPS

month at 7:30 pm.
Mail: PO Box 478, Smithfield, NSW 2164.

SYDNEY AMSTRAD COMPUTER CLUB
President:	Tom Caldwell	(02 661 7573)
Sec/Treas:	Reed Walters	(02 560 9487)
Venue:	Camdenville Comm. Ctr., Newtown on the 1st Saturday of every month at 2.00 p.m. For more details contact the Secretary between 6.00 p.m. and 9 p.m.	
Mail:	PO Box 423, Matraville, 2036.	

SYDNEY PC1512 USER GROUP
Contact:	Geoff Craine	(02 76 6467) A/H
		(02 412 9213) B/H
Venue:	To be arranged; meeting initially on the third Tuesday of each month at 7.00 pm.	

QUEENSLAND

AMSTRAD AND PC USER GROUP OF LOGAN
President:	Michael Toussaint	(07 200 5414)
Vice-Pres:	Peter Incoll	(07 208 2332)
Secretary:	William K. Giles	
Treasurer:	Bryan Carter	
Librarian:	Carol Watts	(07 287 2882)
Newsletter:	Rhys Watkins	
Venue:	Loganlea State High School (in the Communications Room) every 3rd Sat. of the month starting at 2.00 p.m. A Basic programming course is held fortnightly.	
Mail:	10 Carramar St, Loganlea, 4204.	

BRISBANE AMSTRAD COMPUTER CLUB
President:	John O'Connor	(07 271 3350)
Vice Pres:	John Digby	(07 351 2553)
Secretary:	Bob Ashe	(07 355 5699)
Treasurer:	Ivan Dowling	(07 269 8795)
Tech. Editor:	Franz Hendrickx	(07 356 0633)
Venue 1:	NEWMARKET: Newmarket State Sch., Banks St., Newmarket on the 2nd Sat. of each month at 1.30p.m. Any executive member can be contacted for information.	
Venue 2:	REDLAND BAY: Birkdale State Sch., Agnes St, Birkdale 4159 on the 3rd Sat. of each month from 1.00pm. Co-ordinators are Paul Peterson (07 206 7214) and Nev Taylor (07 207 3435).	
Venue 3:	SUNNYBANK: Sunnybank State Sch., Turton St, Sunnybank 4109 on the 3rd Sun. of each month from 1.30pm. Contact Jim Papadimitriou (07 344 2067).	
Venue 4:	WESTERN SUBURBS: Jamboree Heights State Sch., 35 Beanland St, Jamboree Heights 4074 on the 1st Sat. of each month from 1.30pm. Contact Gordon Bradford (07 814 4746) or Helda & Jim James (07 376 1137).	
Venue 5:	REDCLIFFE PENINSULA: Kippa-ring State Sch. (library), Elizabeth St, Kippa-ring 4020 on the 2nd Sun. of each month from 1.30pm. Contact Ivan Dowling (07 269 8795)	
Mail:	PO Box 167, Alderley, Qld. 4051.	

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

CAPRICORN AMSTRAD USERS GROUP
Pres/Sec:	Anthony Trost	(079 33 1951)
Treasurer:	Dorothy Jasperson	
Venue:	Block 2, Waraburra State School, Johnson Road, Gracemere on the first Friday of each month at 7.00 pm.	
Mail:	4 Sunrise Crescent, Gracemere, 4702.	

BRISBANE WATERS AMS USER CLUB
President:	Peter Scammell (043) 676408	
Vice Pres:	Arthur Bradney	
Secretary:	Douglas Green (043) 422568	
Treasurer:	Andrew Pernecker (043) 692430	
Venue:	Meals on Wheels Hall, cnr Ocean Beach rd and McMasters rd, Woy Woy. Third Thursday of each month at 7.30pm.	
Mail:	1/254 Railway st, Woy Woy, NSW. 2256.	

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

GOLD COAST AMSTRAD USER GROUP
President:	Gary Rosenblatt	(075 33 9232)
Treasurer:	Greg Sneddon	(075 32 0227)
Secretary:	Pam Scott	(075 32 3334)
Venue:	Benowa State High School, Mediterranean Avenue, Benowa on the first Saturday of each month at 2.00 pm.	
Mail:	46 Musgrave Ave. Southport 4215.	

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

MACKAY AMSTRAD USER GROUP
Contact:	Des Mulrealiey	(551 409)
	Geoff Taylor	(552 350)
Venue:	Meet every second Sunday morning. Contact the above for location and time.	

PENINSULA AMSTRAD CLUB
(amalgamated with BACC)
President:	Ivan Dowling	(07 269 8795)
Treasurer:	Keith Johnston	(07 203 2339)
Venue:	Kippa-Ring State School Library, Elizabeth Avenue every third Tuesday of the month at 7.30 pm.	

TOOWOOMBA AMSTRAD USERS GROUP
President:	Tony Carlaw	(076 91 6161)
Secretary:	David Culliford	(076 32 7277)
Asst Secs:	Chris & Glen Jones	(076 91 2643)
Treasurer:	Anglea Gschidle	(076 34 1692)
Librarian:	Shane Gschidle	(076 34 1935)
Venue:	Toowoomba Education Centre, Baker Street, Toowoomba on the 4th Monday of each month starting at 7.30 pm.	
Mail:	c/o Secretary, 58 Curzon St, Toowoomba, QLD 4350.	

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

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

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

TASMANIA

SOUTHERN TASMANIAN AMSTRAD CLUB
President:	David Burtt	(002 44 3385)
Secretary:	Lance Brown	(002 28 2018)
Treasurer:	Cindy Campbell	(002 34 8003)
Venue:	Glenorchy Regional Library, Glenorchy at 7:30pm on the 4th Wed. of each month.	
Mail:	PO Box 247, North Hobart, 7002.	

NORTHERN TASMANIA AMSTRAD COMP. CLUB
President:	David Double	H (003 444 243)
V. Pres.:	Shane Crack	H (003 446 525)
Sec/Treas:	Enid Baker	B (003 431 313)
Librarian:	Paul James	H (003 273 525)
Junior Del:	Jason Donati	H (003 316 597)
Tech. Off.:	Richard Wilson	H (003 931 437)
Venue:	Launceston Community College (opposite Park Street) in Room 27 on the first Saturday of the month at 5.00 p.m.	

N.W. COAST AMSTRAD USER'S CLUB
President:	Peter Gibson	(004 24 7586)
Treasurer:	John Westerhof	(004 24 3977)
Secretary:	John Westerhof	(004 24 3977)
Venue:	Don College, Watkinson St Devonport the third Sunday of every month at 7.30pm.	
Mail:	Secretary, 7 Bishton St, Devonport, Tas.	

NEW ZEALAND

THE AMSTRAD COMPUTER CLUB OF CANTERBURY
Contact:	Ian Orchard	(524 064)
Venue:	Four Avenues School, cnr. Madras Street and Edgeware Road, Christchurch 1 on the fourth Wednesday of each month.	
Mail:	C/o 50 Rapaki Road, St. Martins, Christchurch. 2 NZ.	

AMSTRAD USERS GROUP
Contact:	John Court	H (666 143)
Venue:	Oranga Scout Hall, Fergusson Park, Waitangi Road, Auckland. Between 9.30 am and 4 pm on the third Saturday and the last Sunday of the month. CPC and PCW's catered for.	

WELLINGTON AMSTRAD USER GROUP
President:	Patrick Faury	(766 185)
Secretary:	Lesley Walker	(679 169)
Treasurer:	Gareth Purchas	(764 111)
Librarian:	Dennis Lowe	(887 919)
Librarian:	Ewen McNeill	(784 520)
Mag Editor:	Steve Lillis	(675 524)
Venue:	Cafeteria, NZ Fisheries Research Division, Greta Point, Evans Bay, on the first Monday of each month from 7.30 pm.	
Mail:	PO Box 2575, Wellington, New Zealand.	

CONTACT LIST

Victoria:

Brian Ellis, Reservoir
(03) 469 4425 A/H

South Australia:

Dave Green, Port Pirie
(086) 326 834

CLASSIES

FOR SALE

Start Computing with the Amstrad CPC6128 - by Judith Thamm.
A Basic course for beginners, full explanations. 112xA4 photocopied pages coil bound with over 50 programs. Ideal for computer clubs. Book $20.00, 3" disc $10.00, P&P $2.00
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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

CPC 464 with GT 65 monitor plus over 30 games and issues of The Amstrad User plus original manual and many books on programming. Retail over $1000, sell $600. Phone (059) 854 275.

PCW 8256 with 2nd drive and RS232 parallel interface plus NLQ printer. Software includes a financial management program and lots more. $1400 ono. Phone (068) 537 215 between 8pm and 9pm.

Amstrad CPC 6128 with Multiface II, colour monitor, seikosha printer, amplifier and speakers, original games including Dragon Ninja, Operation Wolf etc. Also hundreds of computer magazines. $1750 ono. Phone (071) 284 747.

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.

SERVICES

FABRIC RIBBONS re-inked. DMP, LX86, LC10 - $4; PCW - $5; LINE from $6.50; Multi-colour $4 per track (min 2 tracks). WE PAY surface post both ways. Windsor Software, FREEPOST 47, BOX 408, Lutwyche, QLD 4030. Ph (07) 356 1759

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) 233 9661 for details.

DISPLAY ADVERTISING DEADLINES

Issue	Booking by	Copy by
MAY'90	12/03/90	23/03/90
JUN'90	17/04/90	27/04/90
JUL'90	14/05/90	25/05/90

Please refer all display advertising enquiries or bookings to DERRICK LEWIS & ASSOCIATES on (03) 519 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.)

Classification: ❑ For Sale ❑ Wanted ❑ Services ❑ User Groups

Please place the following advertisement in the next available issue of The Amstrad User

I enclose payment of $7.50 by Cheque/MO/Bankcard/Visa/Mastercard (cheques payable to The Amstrad User).

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

CPC & PCW PUBLIC DOMAIN SOFTWARE

The following discs contain compilations of public domain programs put together by the Advantage Computer User Group (in England) and 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 plus useful sorted directory and MENU systems.

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

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

CPC Ref: #430

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

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

CPC Ref: #601   PCW Ref: #801

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

CPC Ref: #602   PCW Ref: #802

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

CPC Ref: #603   PCW Ref: #803

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

CPC Ref: #604   PCW Ref: #804

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

CPC Ref: #605   PCW Ref: #805

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

CPC Ref: #606   PCW Ref: #806

TEXT PROCESSING UTILITIES
• *Sideways* - prints text file sideways on an Epson-compatible printer. Ideal for those wide spreadsheets • *Sort* any 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 reload • *Bestiary* (written in Mallard Basic for either PCW or 6128 Mallard users. Standard CPC users see Adventurer'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

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

How to order your discs

You may either order over the phone by credit card or by post. *It is very important that you get the reference number correct. CPC and PCW discs are different.* (Software contained on 3" discs only). The cost per disc is $17.50. • *BANKCARD, MASTERCARD & VISA accepted* •
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— CPC —
464 - 664 - 6128

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——— CPC continued ———

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——— CPC continued ———

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(All reviewed Issue 48 - Jan '89)

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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

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——— CPC continued ———

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256k MEMORY EXPANSION (6128)	289.00
256k SILICON DISC SYSTEM (6128)	329.00

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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

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

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CPC MISCELLANEOUS

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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

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Armageddon Man	57.95
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Classic Invaders (Space Invaders style)	29.95
Classic Quest Adventures:	

PCW continued

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PCW continued

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—— PC ——

PC20 - PC1/2000 series
PC1512/1640 - PPCs
and compatibles

*Items marked with a "†" symbol are also available in 3.5"
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Ships Ahoy	59.95
Spelling Fun 1 (5 to 15 yrs) #	39.95
Stepping Stones Series	
Level 1 - ages 2 to 4 - letters, number & words	59.95
Level 2 - ages 5 to 7 - words, maths & sentences	59.95
Ten Little Robots	49.95
Typing Tutor 4 #	62.95
Word Fun 1 (5 to 15 yrs) #	39.95
Where in Europe is Carmen Sandiego †	84.95
Where in Time is Carmen Sandiego †	84.95
Where in the World is Carmen Sandiego †	84.95

Where in USA is Carmen Sandiego †	89.95

PC BUSINESS

Ability Plus †	299.00
Upgrade to **Ability Plus** for existing **Ability** users	
(Original disks and manual required for proof)	224.00
Ability †	149.00
AutoSketch (CAD system) †	**249.00**
Bankmate - *manages personal finances and reconciles*	
your bank account. Includes pop-up calculator. #	59.95
Bookkeeping (to Trial Balance)	**199.00**
Brainstorm †	99.00
Business Dynamics - *primer*	39.95
Capital Budgetting †	199.00
Cardbox Plus Standard †	895.00
Chartman - *business graphics*	99.00
Condor 1 Jnr †	149.00
Contactmate - *productivity package which controls*	
personal & business contacts #	69.95
Corporate Finance †	199.00
Desktop Accountant †	399.00
Financial Accounting for non-Accountants †	199.00
In-house accountant †	299.00
Masterfile PC version 3 standard - *the most popular*	
database for Amstrad PCs and compatibles #	199.00
Masterfile PC version 3 full - *the standard version with*	
an integrated word processing module included #	269.00
Mini Office Personal - *integrated database, wordprocessor,*	
Spreadsheet and label printer	99.95
Money Manager PC - *cash book including graphics*	79.00
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) #	119.00
Personal Excellence Package - *a serious approach to*	
assessing your thinking skills, IQ, mental performance and	
aptitudes	109.00
Personal Cardbox Plus †	349.00
Protext PC #	169.00
Protext Filer PC	59.95
Protext Office	79.95
RAM JET EXECUTIVE - *gives PC1512 only a disc cache,*	
print buffer, screen accelerator	69.00
Scratchpad Plus †	99.00
Sage Series (fully supported in Australia) †	
Bookkeeper	299.00
Accountant	449.00
Accountant (network version)	900.00
Accountant Plus	749.00
Accountant Plus (network version)	1200.00
Financial Controller	1149.00
Financial Controller (network version)	2500.00
Payroll (up to 999 employees)	599.00
Sales Force Management †	199.00
Stockmarket - *watch your shares*	79.95
Swiftcalc - Spreadsheet + sideways printing †	59.95
Tait Accounting - *small business accounting with Debtors,*	
Creditors and Invoicing	129.00
TBM (formerly ABC Business Pack) - *an Australian*	
supported integrated accounting and stock control package	

with many extras	499.00
Top Copy - *word processing with spell checker and*	
mail merge	69.00
Twin Advanced - *integrated spreadsheet (like Lotus),*	
graphics and database	159.00

PC UTILITIES

3-D GAME MAKER	49.95
AWARD WARE - *certificates, banners, cards Designer*	
	49.95
BANK STREET WRITER PLUS - *famous Word Processor*	
including 60,000 spell checker & Thesaurus #	110.00
BANNER MANIA # (for colour printers too)	59.95
CREDIT CARD ACCOUNTING SYSTEM	29.95
DISCO HARD DISK MENU SYSTEM - *creates*	
personalised menus, runs common DOS commands with	
one keypress.	99.00
DOS-RX - *disk management utilities and tools*	59.95
EXPERT SERIES:	
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
FILE RESCUE PLUS	69.95
GO! SERIES (all contain Computer ToolBox utility)	
GO! START - *four function calculator, letter writer and*	
typewriter, computer toolbox, address filer, notepad, maze	
game, print function for printing envelopes and address	
lists	29.95
GO! WRITE - *prompts for business letters, memos, reports,*	
invitations, calendars, banners and address forms	29.95
GO! FILE - *fully functional database, just fill in the blanks*	
in ready made file forms	29.95
GO! PLAN - *fully functional spreadsheet, just fill in the*	
ready made forms for planning retirement, savings, car	
expense, loans, etc.	29.95
HOME ORGANISER - *with Inventory, Shopping list, Librarian*	
and Planner	14.99
IANKEY TYPING TUTOR - *crash course* #	59.95
IANKEY TYPING TUTOR - *for 2 finger typists* #	59.95
MAIL SHOT PLUS - *with graphical layout*	99.00
MASTERING YOUR PC - *a DOS & Typing tutorial*	39.95
PERSONAL BANKING RECONCILER	29.95
PERSONAL POSSESSIONS INVENTORY	29.95
PRINT MAGIC †	49.95
PRINT SHOP - *over one million copies sold of this easy to*	
use personal graphics package. 8 type styles, 9 borders,	
dozens of pictures to create personal cards etc. †	89.95
PRINT SHOP COMPANION - *adds a calendar to Print Shop*	
(monthly and weekly formats) plus facility to edit existing	
Print Shop graphics †	84.95
PRINT SHOP GRAPHIC LIBRARIES	
Disk 2 - *symbols for hobbies, occupations,*	
travel, music and health †	54.95
Holiday Edtn - *70 graphics for Christmas,*	
Hanukkah, New Year, 10 new typefaces, 14	
borders & 12 full panel designs †	54.95
School & Business Edtn - *over 100 eye-catching pictures*	
for the office or student environment †	54.95
PRINT POWER - *multi fonts & borders*	69.95
PUBLISH-IT - *a fully integrated, full featured desktop*	

—— PC continued ——

publisher with page layout, word processing, typesetting and graphics all in one package. Accepts imports from Word, WordPerfect, Lotus 1-2-3 graphic files. Over 1200 possible typestyle to choose from. 299.95

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

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

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

Tasword PC - word processor †	99.00
Tas-spell PC - spell checker †	95.00
Tas-print PC - style writer †	95.00
Tas-sign PC - sign maker †	95.00
Tascopy PC - graphics editor †	95.00

PC PUBLIC DOMAIN

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

PC JOYSTICKS

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

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

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

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

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

MISCELLANEOUS

DISKS
Verbatim "Valuelife" 3.5" (packs of five) per pack...17.50
KAO "Amstrad User" 5.25" (packs of ten) per pack...22.50

DISK DRIVE HEAD CLEANERS
3.5" for PPC, PC20 or PC2000s	17.95
5.25" for PC1512/1640	17.95

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

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

—— PC continued ——

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

DUST COVERS

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

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

DISK DRIVES/CARDS

FOR PC1512 or PC1640
(The PHDs also suit PC2086s without hard disks)

20mb Portable Hard Drive on a card *	849.00
30mb Portable Hard Drive on a card *	929.00
20mb Internal Hard Disc *	725.00
30mb Internal Hard Disc *	789.00

* Add $15 for certified post and insurance ($25 overseas)

720k 3.5" int. disc drive **	289.00
720k 3.5" Ext. disc drive **	385.00
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)

AMSTRAD PC20 COMPUTER

The PC20 is an IBM PC-XT compatible with 512k RAM, 8MHz 16 bit processor, a built-in modulator and cable for use with a standard TV (CGA only), single 3.5" 720k floppy drive, parallel centronics printer port and an expansion socket for an externa 3.5" or 5.25" drive.

(The PC20 was reviewed in Issue 56 - Sept '89)

PC20 unit only	799.00 plus freight of $35.00
PC20 + colour monitor	$1199.00 plus freight of $45.00

MATH CO-PROCESSORS

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

MICROSOFT RANGE

Chart †	550.00
Excel for Windows #	849.00 r

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 │  Order value over $50       $5.50     $10.00  │
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—— PC continued ——

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

— BOOKS —

CPC TITLES

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

LOGO TITLES

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

PCW TITLES

Advanced LocoScript on the PCWs	39.50
Desktop Publishing with the PCW	35.95
All in one business computing with the PCW and Mini Office Professional	37.95
Locomail User Guide - new version	54.95
LocoScript Pocketbook	17.95
LocoScript2 and the Amstrad PCW Computers - a complete guide	43.00
LocoScript2/LocoMail/LocoSpell: assignments and solutions	**32.95**
Mallard Basic - Introduction and Reference by Locomotive Software	39.50
Mastering the Amstrad PCW 8256/8512	32.25
Pocket Wordstar	30.95
PCW Machine Code	**39.95**
Program your PCW	32.95
Using Databases on the PCW	35.95
Word Processing with the PCW	27.95

CP/M TITLES

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

mail order

—— BOOKS continued ——

Choosing & Using CP/M Business
Software (for PCWs)   35.95

PC TITLES

Abacus Books for Beginners:
GW-Basic for beginners	36.95
Lotus 1-2-3 for beginners	36.95
Microsoft Works for beginners	36.95
Microsoft Word for beginners	36.95
MS-DOS for beginners	36.95
Unix and Xenix for beginners	36.95
Ventura for beginners	36.95

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	36.95
Adv. Basic2 Programs on the Amstrad PC	35.95
Basic2 User Guide by Locomotive Software	39.95
Business Computing with the PC1640	44.00
Business Presentation Graphics on the PC1512	55.00
Communications with the Amstrad PC	44.00
DOS Plus Reference Guide for PC-DOS, MS-DOS and CP/M Programmers from Digital Research	75.00
Exploiting MS-DOS on Amstrad PC and IBM compatibles	46.65
Lotus Agenda	39.95
PC System Programming for developers: an encyclopaedia for DOS programmers	69.95
PC1640 Technical Reference Manual	49.50
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
PC/MS-DOS	34.95
WordPerfect 5.0	34.95

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dBase III Plus	19.95
dBase IV	19.95
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Lotus 123 vers 2.01	19.95
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

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

—— BOOKS continued ——

Word Processing using GEM Write   45.95

OTHERS

Computer Viruses	49.95
Computers and the Law	65.00
Introducing dBase	o/s
Managing your Computing: a practical handbook	50.00
Microcomputer - troubleshooting & repair	48.95

— COURSES —

Complete intoductions 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

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(English imported mag.)

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—— 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.

To order by mail, send your cheque, money order or credit card number with expiry date, along with your name and address (this is to where the voucher will be posted) to our address shown below.

THE AMSTRAD USER
641 High Street Road, Mount Waverley, Vic 3149

Phone: (03) 233 9661

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