The Aussie Mag for Amstrad owners

THE AMSTRAD USER

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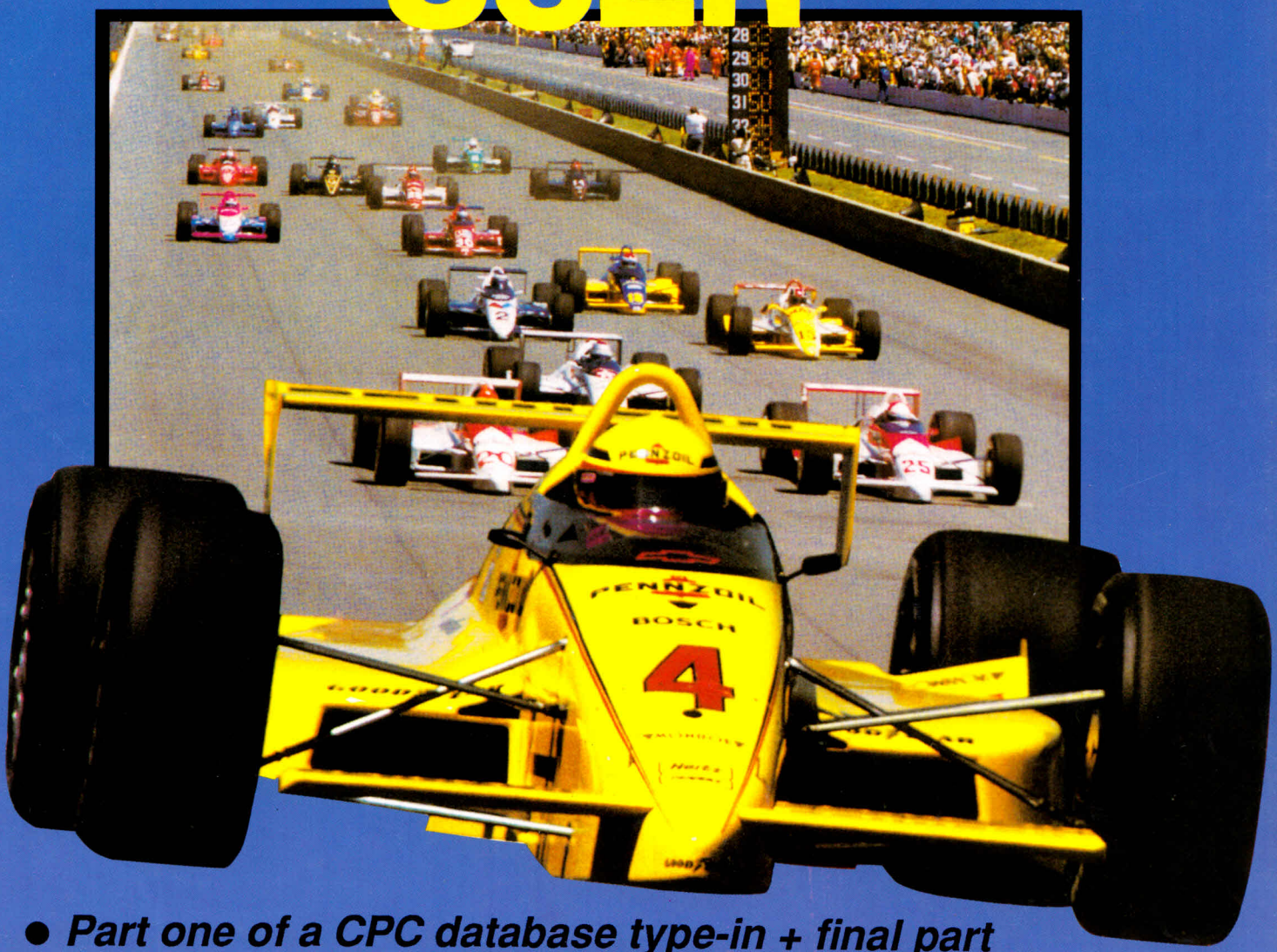
See centre pages

Issue No. 62 $4.50 March 1990



- *Part one of a CPC database type-in + final part of Unknown Planet type-in + games reviews*
- *Review of Fleet Street Editor + PCW font editor type-in + new tutorial on Protext + final virus article*
- *Review of Handy Scanner + Compatibles Corner*

FOR THE NOVICE & EXPERIENCED USER

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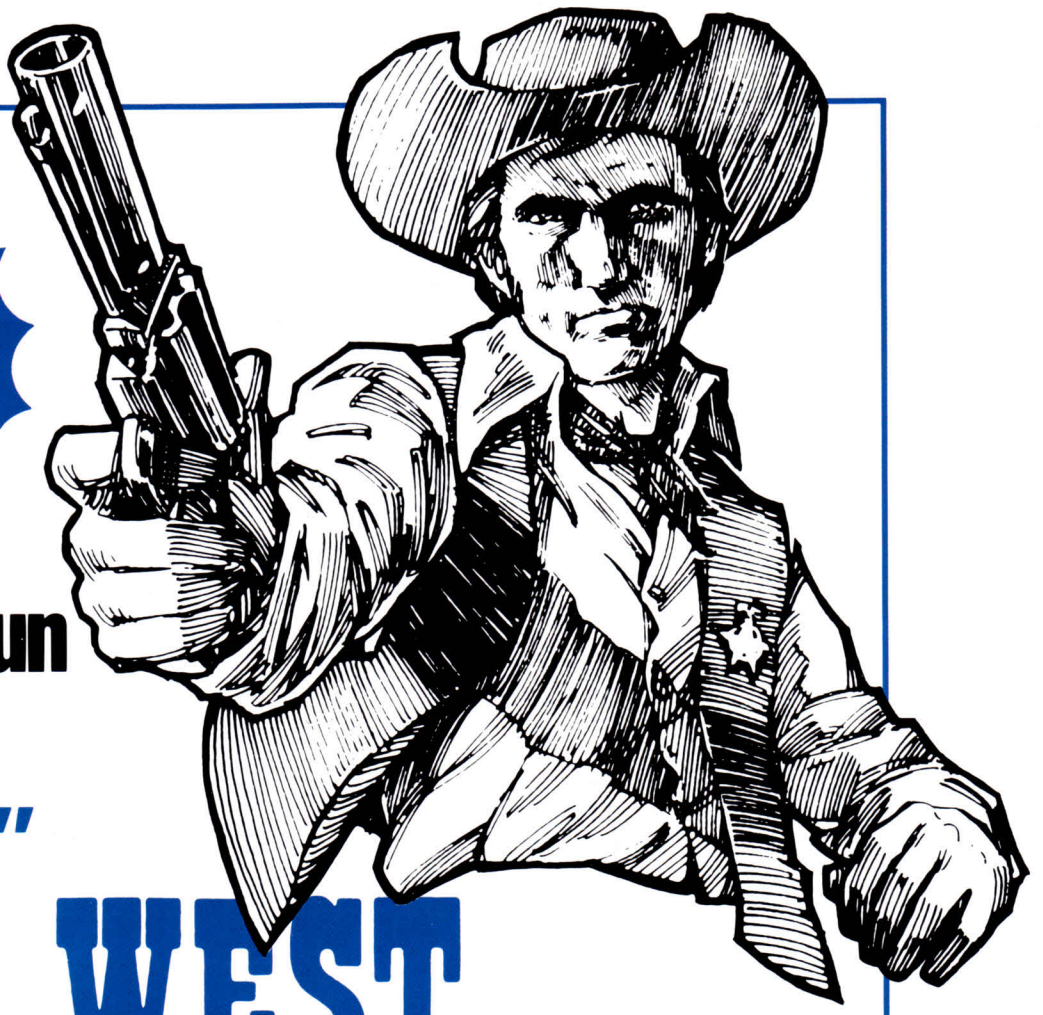
AN INTERACTIVE GUN AND INCREDIBLE SOFTWARE



"Have Gun Will Travel!"

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WEST PHASER is a breakthrough in game design. You and your trusty Colt .45 travel the length and breadth of the Wild West cleaning up cities, running varmints out of town, capturing outlaws and collecting rewards.

WEST PHASER is an arcade-style animated game using lightning fast animation on huge, detailed, cartoon-style figures. The game ranges from California to Utah, in saloons, out on the streets, and on the open plains. The bad guys aren't the only ones looking out for you. INJUNS!, the hills are crawling with them. You Colt .45 is your only friend!

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QUEENSLAND: Pactronics Pty Ltd, 12 Stratton St, Newstead 4006 (07) 854 1982
SOUTH AUSTRALIA: Contact N.S.W. or Victoria Office
WESTERN AUSTRALIA: Pactronics Unit 13, 113 High Rd, Willeton 6155 (09) 354 1122

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All enquiries and contacts concerning this Publication should be made in the first instance by writing to The Amstrad User, 641 High Street Road, Mount Waverley, Victoria 3149, Australia. Urgent matters can be phoned through on (03) 233 9661.

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

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

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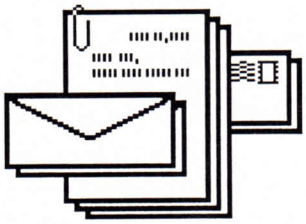
Letters to the Editor



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

With reference to Mr. P.R. Hunt, TAU Mailbag, Issue No 58 (concerning how to get C & D drives to function on the PCW) I noted with interest of his attempts to get four disc drives on his PCW. I have had four drives A,B,C & D connected to my CPC6128 now for a couple of years. Mr. Hunt is on the right track, about the need to decode to two lines coming out of the Floppy Disc Controller and using the 74LS139 to do the decoding to get the four drive select lines.

As for the software, he needs to allocate spare ram for a Disc Parameter Header [not to be confused with a Disc Parameter Block] Hash Table and an Allocation Table for each EXTRA physical drive connected. That's one reason why if you log onto C or D drive they won't show the right information after doing a DIR or anything else for that matter.

Although the 6128 CP/M 3 firmware is different to that of the PCW I see no reason why, after burning the midnight oil for a few nights and reams of paper, that my code can't be adapted to function on a PCW with a little [lot?] effort. Only two places need to be patched to point to the added code needed to maintain the extra DPH, Hash Tables and Allocation Tables for C & D drives. Most of what is needed can be supplied by the BIOS jump table and the extended jump table.

If Mr. Hunt is interested I can supply him with the code for the 6128 plus a few tips on how to find the needed patches and so is welcome to see if he is able to adapt it to the PCW or at least see how it can be done.

I can supply it either in Z80 [preferred], but need a Z80 assembler to [produce a REL output file] or 8080 [messy, but already got the needed assembler] code, so, if Mr. Hunt has a telephone modem he can grab a copy by ringing me on 09 - 402 1119 WST [no daylight saving] and download it or mail me a formatted 3 inch disc and I'll return the disc. I can read and write to PCW single sided discs, NOT double sided PCW format.

Perhaps TAU may be interested in a project as how to do the needed hardware modifications and the software needed?

One last point, my code allows the CPC6128 to use the AMSDOS 178k and 169k formats, plus 360k DSDD and 720k DSDD drives, be it A,B,C or D drive under CP/M 3.

I've written a disc formatter to format all the above formats and will also format discs in C & D drives if connected.

Bruce Dudley, Heathridge, WA

Thanks Bruce, and if Paul Hunt needs to make contact he can write c/o The Amstrad User and we will pass it on. We would certainly like more details of your hardware project to perhaps publish in a future issue.

I've got a few questions to ask you guys. Firstly, why don't you sell large hardware like Disk Drives and printers. *(We do - in our retail shop in Mount Waverley and can supply [if available] by mail order too!)* Is it true that they have stopped making 664s? *(Yes - ages ago).* What happened to cheat mode and Adventure columns and lastly why don't you make cover tapes? *(a: We ran out of Cheats, b: Philip Riley was busy on his full time job but is back again this month and c: it's too expensive, there is little demand and what would our PCW and PC readers want with a CPC tape anyway?)*

Lastly, in Slap Fight, when you get to the stage where you get three square shape laser turret things and a long redish thing in the middle and you shoot the red thing the game suddenly ends and you go back to the option screen, why does this happen? *(You obviously hurt the "long redish" thing's feelings.)*

Damian Roy, Mansfield, Vic.

I have written to you before and have not had the pleasure of having my letter printed in your magazine. This time I am writing to your readers about a recent experience I had in the Christmas

period so that someone may be saved the same panic as I had.

I am now the proud owner of F-16 Falcon (PC) and an Analog PLUS joystick produced by Suncom - both Christmas presents. They worked perfectly together, that is until I started messing around with all the buttons and trimmers on the joystick, I also unplugged it while the computer was running a game. Somehow, the computer's interpretation of the centre of the joystick got messed up and after adjusting the trim controls so that the F-16 flew in a straight line, I found that the stick was more sensitive in one direction than the other. I was on the brink of taking the equipment to a professional when a thought occurred to me... It might have something to do with the NVR. So I took out the computer's batteries to reset the Non Volatile RAM, replaced them, and it worked perfectly again. I would suggest this sort of action if ever you come into difficulties with a PC peripheral of a similar nature.

Finally, I have a suggestion: would there be many people interested in a "Swapline" ie swapping software with non-exclusive user license (the software would have to be the original, with the manual). You could set up a column in your mag similar to the Pen Pals section which was introduced due to popular demand. All the work you would have to do is print the request sent in by a reader and the rest would take care of itself. The format could be Swap: Batman for Test Drive II (PC 5 1/4), reply 123 Somewhere Street Mount Waverley Vic 3149. Judging by the responses that this letter may get, please consider this.

Jack Andrews, Huonville, Tas.

We must admit that we cannot see the link between a joystick/joystick card and the NVR, but then,

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stranger things have happened!

You raise an interesting point with your "Swapline" suggestion but we believe that it could break copyright law. If you study carefully any software you purchase, somewhere it will carry a notice advising you that "no part of this software may be reproduced, hired, lent or transmitted...". In your case there is a fine line between 'swapped' and 'lent' and one which we really wouldn't like to put to the test.

Australia is a pretty small market in terms of games software sales in comparison with Europe. This is one of the reasons we miss out on some titles - it's not worth importing small quantities because the manufacturers insist on charging more. We all know 'it's cheaper by the dozen'.

Swapping software will reduce the market even further and have just as much a detrimental effect as piracy. In combination, you would eventually see the market dry up all together - then you'd have nothing new to swap anyway!

I am writing this letter as my Amstrad DMP3160 printer, which is connected to my CPC6128, is temporarily 'out of order'. Hence the purpose of this letter.

My problem is that the printhead has a fault in one of the circuits which results in one of the pins not functioning. (Diagnosis received from a technician who came to repair the printer).

My next problem is that I am attached to the Australian Embassy in Bangkok and have found out to my dismay that I cannot purchase a replacement printhead, or any other Amstrad product for that matter, in Thailand.

I was hoping that you could either supply me a printhead or arrange for a reputable firm to supply me one. If you are unable to assist me, could you please advise who to contact as I have two young children who believe that their Dad can fix anything (except printer heads).

Darryl Gossip, Canberra

We were going to make some rude comments about growing up the outside wall of the Embassy but we guess you've heard all those "attached" jokes. Instead, we will tell you that Amstrad's agency in Thailand is Gestetner (Thailand) P/L of 187 Soi Asoke, Sukhumuit, 21 Bangkok, 10110. Their phone number is Bangkok 2580406. They should be able to assist you.

All correspondence should be addressed to: The Editor, The Amstrad User, 1/641 High Street Road, Mount Waverley, Vic 3149.

Not your usual Bulletin Board!

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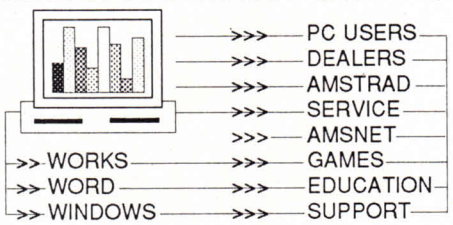

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PEN PALS

If you wish to join up just write to "Pen Pals" care of The Amstrad User.

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9 Blume Terrace
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22 Atkin Street
Melton Vic. 3337

Deon Cameron
30 Ann Street
Coffs Harbour N.S.W. 2450

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

Jason Sefton (CPC464)
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Daniel Treacy (CPC6128)
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Leichhardt N.S.W. 2040

Craig Westbury (CPC6128 & PC)
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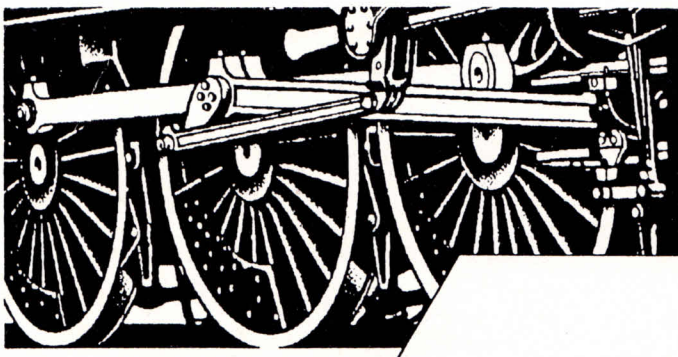
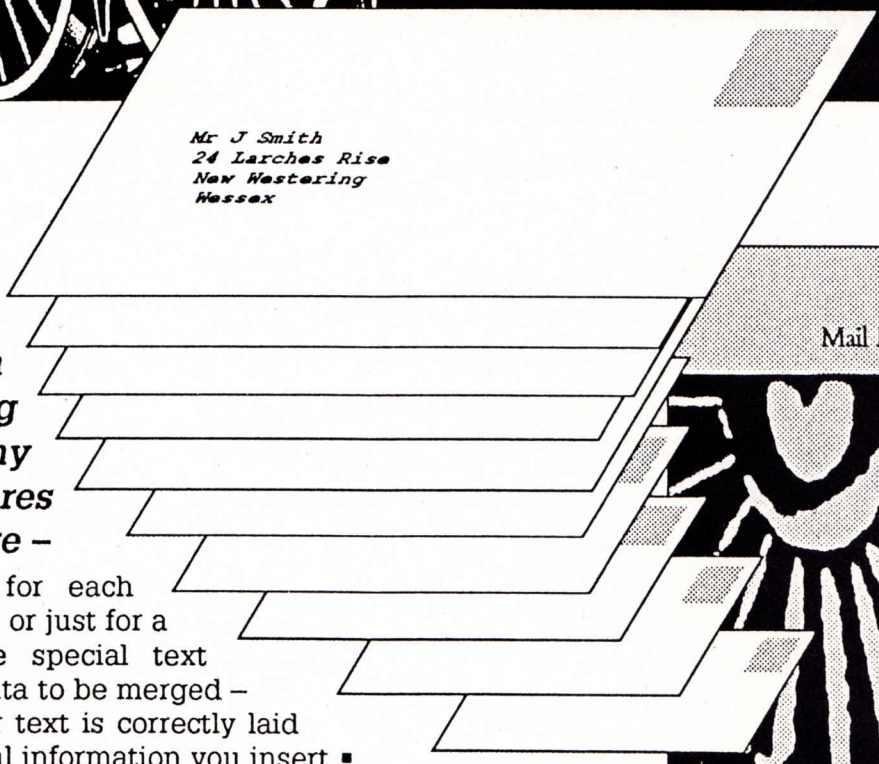
Hove S.A. 5048

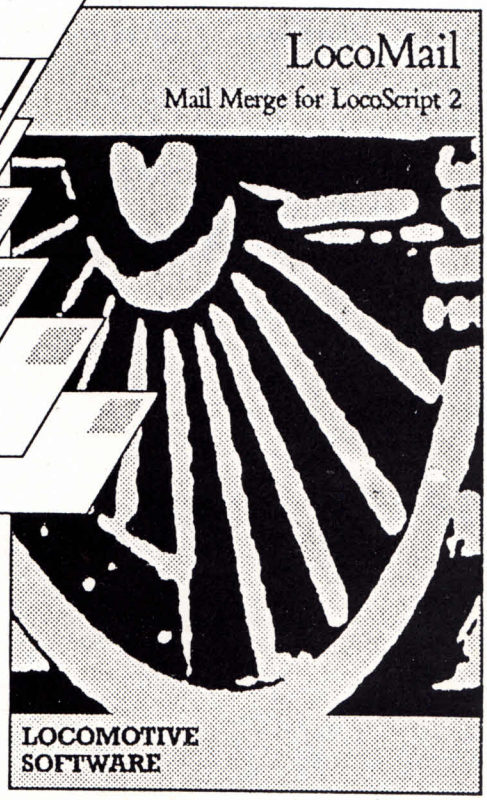


LocoMail for LocoScript 2



Use LocoMail to send letters to everyone on your mailing list. Use its many advanced features to do much more –

▪ Produce letters for each name or data record, or just for a selection ▪ Include special text depending on the data to be merged – each version of your text is correctly laid out, whatever special information you insert ▪ Edit the merged letter before printing ▪ Save the result to disc if required ▪ Use LocoScript data files or ASCII data files from a CP/M program ▪ Prompt for information to be typed at the keyboard ▪ Perform arithmetic within LocoScript documents ▪ Add paragraph numbers automatically ▪ Produce sophisticated LocoMail 'programs' for Invoicing, Credit Control, Enquiries etc. ▪



LocoMail now comes with a completely revised 288 page User Guide – available separately for users of the PCW9512 and earlier versions of LocoMail.

▪ An extended tutorial section ▪ Detailed descriptions of the advanced facilities ▪ Worked examples of "program units", loops and conditional operations ▪ Descriptions of typical uses of LocoMail – Club Membership, Invoicing, Enquiries, Labels ▪ A set of "building blocks" to include in your own LocoMail applications ▪ Full technical description of LocoMail ▪ Troubleshooting guide ▪

All the examples described in the User Guide are supplied on the LocoMail master disc. In case you're just buying the new User Guide, they are also supplied on the LocoMail Examples Disc, available separately.

• LocoMail	$105.00
• LocoScript2 with LocoSpell	$130.00
• LocoMail User Guide	$54.95
• LocoMail Examples Disc	$17.50

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News Break

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

MAJOR VIRUS ATTACK IN UK

Just before Christmas some 10,000 disks were sent out from various locations in London to people who appear to have been on a mailing list sold by PC Business World, and 3000 delegates to an AIDS conference held in Stockholm in 1988.

The disk containing information about AIDS also contained a Trojan Horse virus.

When installed on a hard disk it requests a 'renewal software package' fee of $189 or $378 to be posted to a PO Box (PC Cyborg Corporation) in Panama. Following this message, a short 'lifestyle analyser' program is run assessing AIDS risk groups. By this time the damage has been done.

The disk is supplied with a small sheet of pale blue paper containing a description of the AIDS Information Disk and loading instructions. The other side contains a 'Limited Warranty' and a 'License Agreement'. The user is warned that "your conscience may haunt you for the rest of your life... and your microcomputer will stop functioning normally" if payment is not received. The virus becomes active when installed on the hard disk and makes it unusable after a variable number of system resets. It appears that most of the disk's file names are encrypted then hidden.

The distribution of the disks is currently under urgent investigation by the British Fraud Squad. Scotland Yard have advised that their enquiries have 'taken an international dimension', with the AIDS Information Disk being reported as far away as South Africa and Australia. Apparently, the Panamanian PO Box exists and so too the PC Cyborg Corporation.

It is not clear, however, why the virus was released in such large quantities. It has been suggested that is was a simple case of blackmail to collect a large number of $189 or an attempt to discredit AIDS research.

PC Business Week have moved quickly by making available an antidote program free of charge (If you are unlucky to have been sent a rogue disk, you can get the antidote by ringing the UK on 01 - 831 9252).

Surprisingly at the moment it is not clear if British law has been broken. However, a Bill to codify computer crime and define the penalties is currently being sponsored in Parliament and could well make the statute books soon.

The moral is clear - don't install unsolicited software on your hard disk, or copies of other people's software. You never know where it has been!

LOCOMOTIVE BUNDLES LOCOMAIL

Locomotive Software recently announced a new software bundle for PCW8256/8512 owners.

It contains LocoFile, the new pop-up database, and Locomail the mailmerge application. This is a logical step as the two packages work well side by side. Whereas the two bought separately would normally cost $215, the new bundle price will be $185. Fresh stocks are likely to reach The Amstrad User by the middle of March.

OTHER LANGUAGES

Readers interested in programming languages (COBOL, FORTRAN etc.) other than those supplied with Amstrad PCs may be interested to know that Stiearc Systems is a company which specialises in their distribution for the PC/Xenix/Unix environments.

Alan Springell of Stiearc Systems advises that "these products used to be very portable but they have diversified and specialised so much, it is important to choose the right product."

For more information, you can contact Alan on (02) 871 5158 or write to Stiearc Systems, 1 Nallada Place, Beecroft, NSW 2119.

RAM UPGRADE FOR PCWs

SCA Systems in the UK are just about to launch a unit which will add an extra half a megabyte of memory to a PCW. This means that the PCW9512 and 8512 will have about 880k left (allowing for resident software) and 624k on the PCW8256. This makes Flipper even more useful.

One good thing about it is that you don't have to be a technical wizard to fit it. You merely attach it to the expansion port at the back of the PCW.

The unit also has its own port so you can still use your mouse, extra printer or modem. Another point going for it is that Locomotive Software (the developers of LocoScript and other Loco products) have tested it thoroughly using, amongst other things, their own RAMtest. They will also be publishing previously unavailable specifications on the PCW's addressable memory allowing software writers and manufacturers more scope with developments.

But all this power will not come cheaply. When units eventually arrive in Australia they are likely to cost in the region of $450 to $500 each.

30 GAME COMPILATION ON COMPACT DISK

Codemasters have made a breakthrough in the CPC gaming industry by announcing the release of a 30 game compilation pack on a CD (compact disk). You also get a special lead to connect your CPC to any domestic CD player plus loading software.

The cable is connected to the earplug socket of the CD player and the joystick port of the CPC. It converts the CD's audio signal into binary form for loading. The advantages of using CDs are obvious. For a start they offer a storage capacity of nearly 3 megabytes and they will load games up to 20 times faster than normal. They also have the facility of going straight to selected tracks. Not only that, tape users will rejoice in the fact that they will never see a 'read error a or b' again as the signal from the CD is much cleaner and has a built-in error check.

What doors does this new pack open? Certainly, we are likely to see other companies jump on the bandwagon, but with the enormous capacity available we may see the emergence of 1000 screen games, digitised animated graphics or even full length soundtracks.

The mind boggles!

RECORD DATABASE TITLES

Database have every reason to be happy. Sales of their Mini Office package have now exceeded 500,000 units. In its original form it sold 200,000 copies. Since it was revamped as Mini Office II it has sold a further 300,00 copies making it one of the biggest sellers in the history of home computing software.

Database are also celebrating sales of 60,000 copies of the educational Fun School 2 series. The series of three separate modules was designed by teachers for several different age groups and has astounded many by reaching the top 20 software charts, an area usually dominated by games. Database products are distributed in Australia by Pactronics - (02)748 4700.

HIGH NOON FOR CPCs

At last something new for CPC owners - a unique game called **West Phaser**. It's an arcade style Wild West simulator with a Light Gun. You have to cover the USA from California to Kansas, hunting down outlaws.

The game is controlled by either a joystick or the revolutionary Light Gun in the shape of a six-shooter. Using the gun on the outlaws adds a whole new dimension of realism. The graphics are excellent. West Phaser is also available for PCs with CGA or EGA screens.

Another great game to be released by Pactronics is **Fairlight**. It is a game that uses the revolutionary 3-D World Maker graphics which have to be seen to be believed. Seek the Book of Light in the realistic castle Asvars, and fight your way past trolls and guardians to find the Wizard. The game is also available for the PCW.

On the PC front, the world famous Amiga game **Dragon's Lair** has now been adapted to the PC. It will require EGA or VGA screens. **Superman** takes off in an arcade style game with fantastic newspaper cartoon style sequences to introduce each of the five levels.

Crockett and Tubbs take you crime fighting Miami style. **Miami Vice** is an action game which incorporates fantastic digitised sound.

Based on the Don Bluth children film, **All Dogs Go To Heaven** contains 10 games which follow the plot of the movie.

For business users, **System 3** is an amazing small business system incorporating General Ledger, Cashbook, Debtors Ledger and Inventory. It's a brilliant product.

It is strongly rumoured that Pactronics will soon be importing from one of THE most famous games manufacturers in Europe. More details next month.

Games Arcade

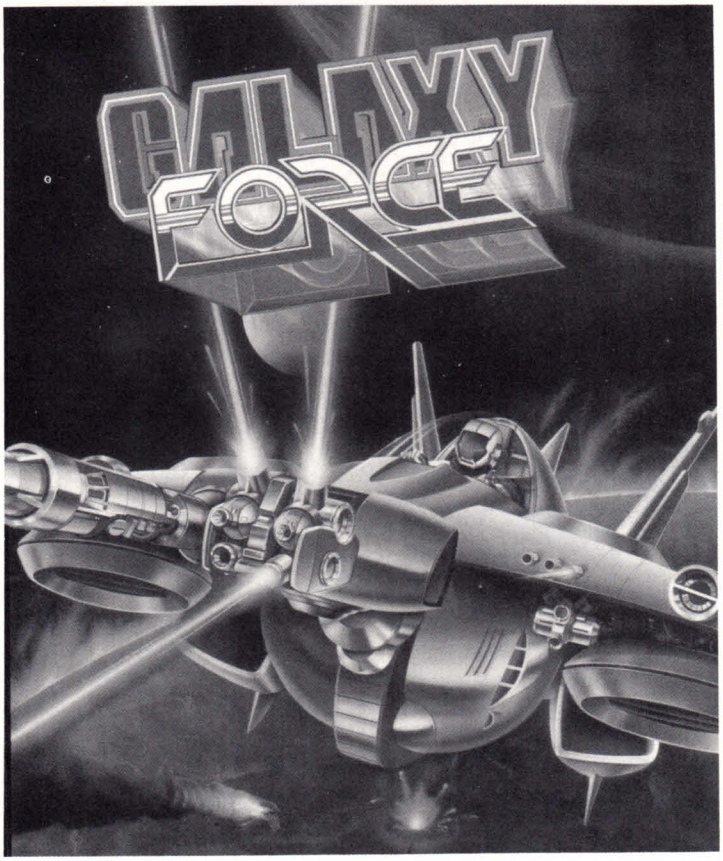
Joystick junkies rejoice, as this month as we look at space battles, high-tech carriers and horrible squidgy aliens.

GALAXY FORCE

Sega's Arcade giant goes 8 bit

CPC Disc - $44.95
CPC Tape - $29.95

Far off in the vast reaches of space there exist many star systems harbouring life. Trade and communication have arisen between these star systems, as has a great, dark force threatening these distant civilizations. To fight this dark menace the Space Federation was formed, but has met with little success.



The enemy calls itself The Fourth Empire and has now attacked Junos, jewel of the Galaxy. The Junos star system, once so beautiful is only ashes now. And on these ashes The Fourth Empire is building the strongest fortress of all time, from which to complete their conquest of the Galaxy.

The Space Federation must end this evil alien menace. Thus is launched Galaxy Force, to strike a hammer blow against the forces threatening civilization!

All that aside, Galaxy Force is undoubtedly Sega's most spectacular if somewhat little known coin-eating supergame with an outrageous looking hydraulic cabinet to match. It utilizes those ubiquitous Sega expand-o-sprites that gave games like Afterburner and Space Harrier such a boost. Although not true calculated 3D as in say Atari's Hard Drivin', we all must agree that visually, there's no competition, which makes it horrendously difficult for humble micros to even emulate the frenetic action provided by these awesome machines, but as with the CPC conversion of Afterburner, I was pleasantly surprised.

The game is basically a head-on, 3D blast that we have all come to know and love. The action takes place over six levels or planets as they are known; JUNOS, VELTEOR, MALKLAND, ORTHEA, ASHUTAR and eventually the fortress itself. On your mission you will travel through space, meteor storms, oceans, jungle terrain, cloud filled skies and robotic superstructures. All quite impressive and very, very fast!

Your ship, which sits prominently in the centre of the screen is equipped to handle a wide variety of the Empire's nasties with continual laser fire, unlimited 'lock on' missiles and power-up modules dropped from a Roadblasters style spacecraft.

After each attack wave is cleared you enter a twisting, labyrinth like tunnel which eventually leads

to the end of level mother ship, a few well aimed missiles and it explodes into a ball of flame. No hard fought battles here, sorry.

The fleet of the Fourth Empire are many and varied. They range from your more traditional spacecraft to giant robots, insect like creatures and huge, segmented attack ships which ominously sway in and out of view. All are large, detailed and well animated. Colour is good too, the programmers making the most of the CPC's 16 colour mode 0.

As I mentioned earlier, the game really is fast, even faster than its coin-op counterpart. The enemy sprites come at you from all directions at an alarming rate and your ship climbs and banks over the horizon very convincingly. Your missiles also leave a realistic trail of smoke as they speed off into the distance and the explosions are more than satisfactory.

The only real complaint I have is the sound which consists of a short, sparse soundtrack and the odd burst of white noise accompanying the on-screen action.

It's also too easy, your 'lives' come in the form of a shield represented by an energy meter at the bottom of the screen.

There's extra energy awarded along the way and you can continue the game in a credit style option which will probably see you as far as the fourth level on your first couple of plays. You also have the option of selecting your starting planet at the beginning of the game. Being a multiload too, cassette users will have to wait between levels.

But overall, Galaxy Force is a great game. The action is fast and furious and it's full of neat touches such as the meteor storm and the variety of contraptions which launch your ship into each level. As you've probably guessed, it's very similar to Afterburner and the likes but quality does definitely win over quantity which makes this well worth checking out.

Andrew Slorach

XENOPHOBE

Exterminate the Aliens!

CPC Disc - $49.95

'XENOPHOBE... one who has a deadly fear of anything alien".

"Distress signals are being received from bases at the far end of the universe".

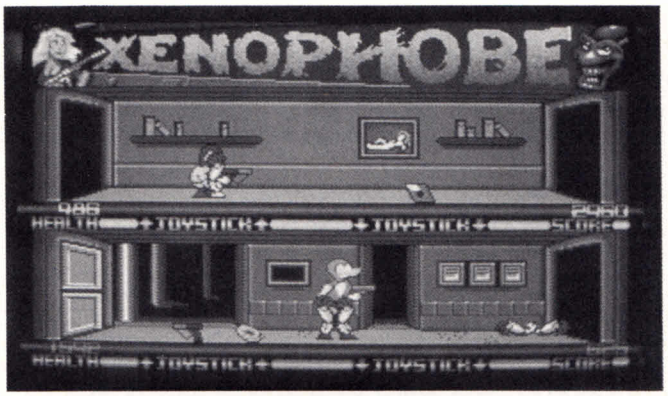
"MISSION ALPHA - Seek out and destroy all hostile aliens life forms before the bases destruct. (IN OTHER WORDS, EXTERMINATE ALL ALIENS).

"MISSION BRAVO - Collect valuable hardware from the infested bases".

The Earth is in danger. Most of the citizens have been gripped by XENOPHOBIA, and world leaders believe that the earth is being observed from a series of space bases that surround the planet (built by man but neglected for decades). They have ordered three squads of mercenaries to go into space and clear or destroy these bases. Unfortunately, only two members of the force can be transported to the bases at one time, so it's now that you must choose your force. Information on each mercenary is contained in the mission brief, which lists age, background and status of each character. Once you choose which mercenary you want (in the one player game you only control one mercenary, while in the two player game each controls one mercenary simultaneously), the character is transported to the base and the 'bug hunt' begins.

There are three ways for a base to be cleared (or destroyed); firstly, you can clear it of all aliens, which earns you a big kill bonus as well as a health bonus, plus a bonus for the items of hardware that you have managed to bring back. Secondly, you can initiate the automatic self-destruct routine in the base's controls, a not so big kill bonus, plus your hardware bonus but no health bonus. Thirdly, if time runs out and the base is over-run with aliens, the base will self-destruct. In this case, you only receive your hardware bonus. Once a base has been cleared (or destroyed), it's off to the next one and the whole process begins again. Never fear, your mercenary cannot be killed when a base self-destructs, as prior to this occurrence, he is transported back to your shuttle.

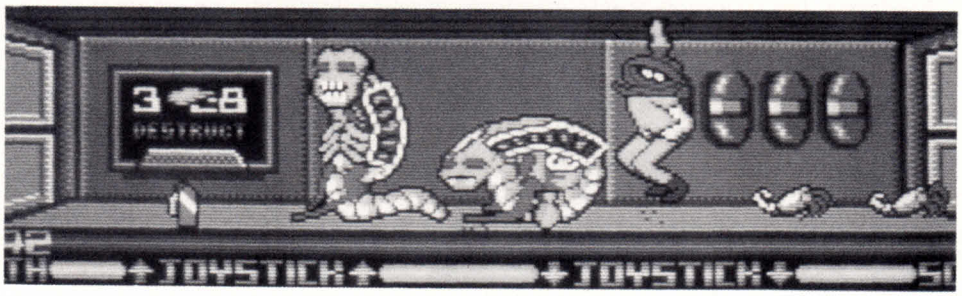
Mercenaries are controlled by either joystick or keyboard. The screen is split in half, with player 1 shown on the top and player 2 on the bottom. Each mercenary starts with a certain number of health



points and these are reduced by contact with aliens. There are a number of different aliens about, the most notable being the Snotterpillar (who spits at you), Tenticles (attached to ceiling or floor that grab you), and the Critter (who sucks your health out of you). Also scattered around the base are more powerful weapons, and one of your first priorities should

be to swap your Phaser for a Laser Pistol or a Lightning Rifle (all the better to kill aliens with). Initially, there are eight bases to clear and once this has occurred, you are presented with a congratulatory message which warns that there are more bases to be cleared and it's back to the first base, a space shuttle, again for more alien bashing.

Microstyle have put a lot of thought and effort into Xenophobe. Included in the package is an audio tape which has some very enjoyable atmospheric music on it (I think that it probably is the soundtrack from the arcade game). Also included is the mission brief, which contains details of your mercenaries, the



various forms of aliens, a historical background and a list of effects that each alien or event has on your mercenary's health. In addition, there is a technical supplement which lists those specific limitations of each version of the game. Graphically, Xenophobe is good. The sonics are good in the one player game, and the music is also good. You have the choice of either sound fx or music during the game, and this is set prior to your starting and cannot be changed again without reloading the game from scratch. It's in the two player game that Xenophobe falls down. Although both mercenaries are shown on the same room when both in it (as in the SPY v's SPY series), and the shots from player 1's weapons do harm player 2, the big disappointment is that there is no sound. Once the number of players is set to two, both the music and sound fx are permanently turned off. I don't know if this is a problem with memory restrictions or not, but it is certainly disappointing.

There are also a couple of other gripes about Xenophobe. Firstly, there is confusion about the loading instructions for the CPC version. The mission brief says to use "|CPM" , whereas the technical supplement states that it's "RUN"DISC". To clear the air for everyone, believe the technical supplement. The second gripe is that, although it is a two player game, nowhere are the keys to be used for player 2 defined. After much trial and error, I found that they are;

UP - DEL key.
DOWN - RETURN key.
LEFT - @ key.
RIGHT - [key.
FIRE - f7 key.
THROW BOMB - ENTER key (this is detailed in the technical supplement).

These are a strange grouping of keys and not what you would expect. They are a compact group but, as they are not used in many games, are difficult to get used to. Forgiving these, and lack of sound on the two player game, Xenophobe is a pretty good offering.

Xenophobe is the first offering from the new Microprose label, as well as being the first arcade conversion for them. Apart from a few gripes, this is a very playable game that is pure alien blasting fun. With other offerings in the pipeline, I look forward to the next Microstyle release and, if they manage to maintain this starting standard, the future of products for the CPC is looking good. *Vic Renfrew*

CARRIER COMMAND

Rainbird's impressive Carrier simulation

CPC 6128 Disc - $49.95

MISSION BRIEF - July 4, 2166. The research ship SS Delta discovered a chain of unchartered islands whilst on a routine tour of the Southern Ocean. These islands were found to be a large source of fossil fuel, and could be a solution to the current energy crisis. The government has decided to occupy and mine these islands, and commissioned a pair of air craft carriers, which were to start at opposite ends of the island chain and work their way towards the centre, populating the islands as they go. The two carriers were to be computer controlled, with a human controller to oversee their operations. The ACC Epsilon was the first carrier finished and underwent sea trials in the Southern Ocean. The trials resulted in a number of modifications being made to the second carrier, including the deletion of the human controller in favour of a completely computer controlled vessel., Because of time constraints, these modifications were never carried out on the Epsilon.

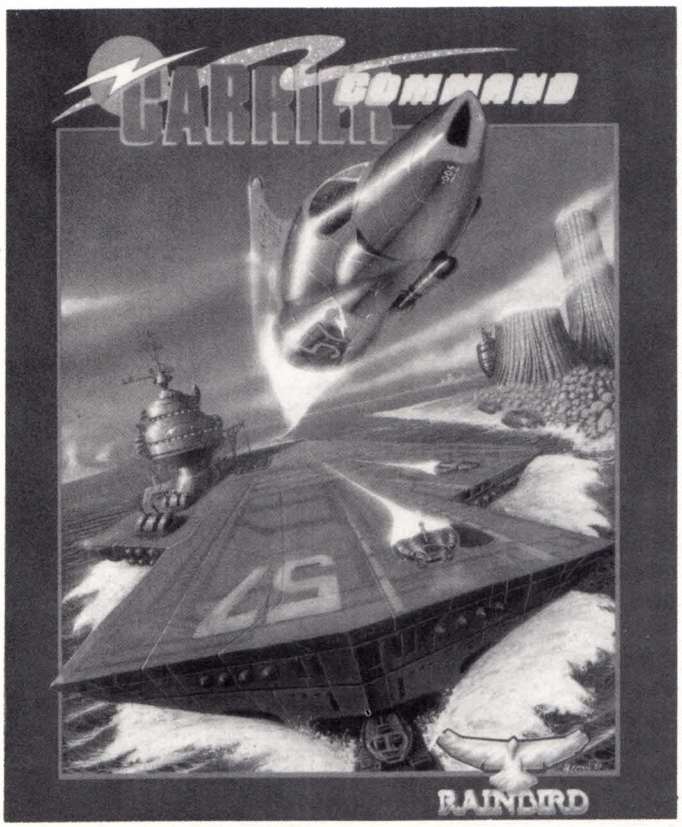
The second carrier, ACC Omega was launched after it was modified and the two carriers set sail. After the sailing, a plot was discovered involving technicians involved in the programming of the carriers, and the program of the Omega was modified to place it under the control of the Stanza organisation who threatened to populate and destroy the islands unless a ransom was paid. Your mission, Commander, is to take control of the ACC Epsilon and populate and mine the islands, and to locate and destroy the Omega and its home island at the north

end of the island chain, before he can destroy the resources that we need.

BRIEFING ENDS!

Oh well, it's just another mission!

Carrier Command places you in command of the ACC Epsilon, an ultra modern carrier, that makes the USS Nimitz look like a bath toy. ACC Epsilon is equipped with Water And Land Roving Utility Shuttles (or Walrus - something like an amphibious tank), Multi-Role Aircraft for Nautical Tactical Assault (or Manta - simply put, a plane), defence drones (which when deployed destroy incoming missiles before they can hit your carrier), a powerful chemical laser and "Hammerhead" missiles, both used for local defence. The aim is to sail boldly, where no man has gone before and 'populate' (another word for capture) islands in and build up a supply network. Once the game begins, you rely on this network for all re-supply. Raw materials are shipped by submarine to factory islands and the finished products are shipped to stockpile islands. At the start of the game your base is the stockpile island but as the game progresses, you are to redeploy it closer to the action.



Within Carrier Command, there are in fact two ways to play. You can either play the strategic game, which puts you at your base without captured islands and a long way to go in front of you, or you can opt to play an action game, which starts half way through with the ACC Epsilon approaching an enemy held island. The action game is best if you want to get straight into the programme, as the strategy game would take a long time to complete (it has been estimated that the 16 bit game, with 64 islands, would take about 30 hours; as the 8 bit version only has 32 islands it could be expected to last half that time).

The screen is split into a central viewing window, where all the action takes place, surrounded by various icons. These allow you to check navigation or the state of your network and stores, operate the Manta and Walrus, operate the local defence weapons and load/save the game or surrender. Within each main icon area, there are other icons which perform other essential functions, such as loading stores or checking the damage control system of your carrier.

Once you have set your production quantities and priorities, it's time to fuel and arm your Walrus and Manta. Here you have a choice of missiles, lasers, command bunker pods, quaker cluster bombs or virus bombs. Quaker bombs are used aboard Manta for destroying enemy command bunkers, while virus bombs are deployed from Walrus and infect the computers of the enemy bunkers and make them friendly. In the attack, both these craft can be programmed to follow a set path, or you can elect to pilot the craft. So, it's a bit of a flight simulator as well as a strategy simulation.

When it was launched on the 16 bit machines, Carrier Command received rave reviews. Upon seeing these, and learning that a CPC version was planned, I wondered how this game would translate to the 8 bit machines. Surprisingly, it came out quite well. The game mixes solid and wire frame graphics and uses them well. The solid graphics are used for the carriers and the islands, while the wire frames are used for the defence drones, the Walrus and the Manta. The graphics are good and they move fast. The CPC version has an added time lapse function. With this, the time taken to move between islands can be speeded up to minimise the amount of time spent sitting and waiting for something to happen (a feature that is not available, I believe, in the 16 bit versions). All the icons are well drawn and responsive. Control can be by joystick, keys, cursor keys or Kempston mouse (sorry no AMX mouse).

Carrier Command comes complete with a top secret mission briefing, CPC specific user guide, the game disc and a music cassette. As a change from the norm, the music is good. All in all, Rainbird has put together a good mix of strategy and action. Although it won't appeal to everyone, I think they've got a winner here, as it's a game that you can quickly get to grips with. If you want a challenge, try Carrier Command for "Just another mission"!

Vic Renfrew

Calculating Interest 2

Petr Lukes is back with another interest listing for those who like to ponder their future loan repayments.

The size of consumer debt and its cost brings fre quent calls for the reform of credit legislation. One of the suggested reforms is the requirement for better reporting of effective interest rate charged for the loan.

Most consumer loans are short-term and the interest quoted is the flat rate for the term of the loan. An oversimplified example may illustrate the terms:

Supposing we borrow $100 at 10% for two years, the loan to be repaid by two equal installments at the end of each of the two years.

Under the flat rate interest terms, the interest for the life of the loan is added to the principal and the total divided by the number of repayments: in our example the total will be ($100x10%) x 2yrs=$120, and will be repaid by two installments of $60 each. Simple and seemingly reasonable, but a breakdown of the two repayments shows an anomaly. At the end of the first year we owe $100 plus interest. i.e. $110. The first instalment of $60 pays the interest and reduces our debt to $50. At the end of the second year we repay the $50 principal and the remainder of the instalment, $10 is the interest component. Since we owed only $50 at the beginning of the year, the effective interest rate for the second year is 20%, twice the quoted rate.

If we paid interest only on the sum owing, the two equal repayments would amount to $57.62. The first repayment pays the $10 interest and reduces the debt to $100.00-$47.62=$52.38. The second repays the outstanding principal and its associated 10% interest: $52.38+$5.24=$57.62. The difference in total interest paid does not appear to be great ($15.24 as against $20), but loans are usually paid by monthly installments and the difference becomes more significant.

The relationship between the flat and the equivalent reducible interest rate is quite complex and has no exact solution. The programme asks for the term of the loan in years and the quoted flat interest rate and works out the equivalent reducible rate by successive interpolation between guesses at the solution. The differences for short-term loans are quite marked: for a one-year loan, repayable by monthly installments, a flat rate of 10% actually represents an 18% reducible rate.

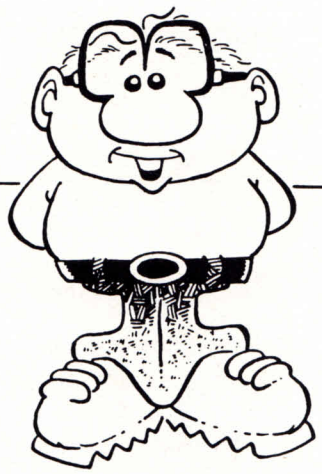
Lenders usually impose some establishment charges which may be added to the loan or have to be paid before the loan is granted. Either way, the cost of the loan is higher than it would appear from the quoted rate. As well, for some short term risky loans, the repayments must be made in advance, the first one at the time of granting the loan. In case of, say a $100 loan with repayments of $10, the actual amount lent is $90 while interest is charged on the nominal $100. There is virtually no limit to the possible variations, and arriving at the true cost of the loan can be a complex exercise.

```
10 title$="INTEREST2: Reducible loan repayment schedule
 LKS 880112"
20 MODE 2 '80 column display
30 PRINT title$
40 INPUT"Enter term of loan in years ";y
50 INPUT"Enter interest rate as percent per annum (e.g.
 10) ";r
60 m=12 'monthly payments
70 n=y*m:i=r/m/100 'per payment period
80 numeric$="0123456789."
90 am$="":LINE INPUT"Enter amount ? ";x$
100 FOR f=1 TO LEN(x$) 'numeric characters only
110 y$=MID$(x$,f,1):IF INSTR(numeric$,y$)>0 THEN am$=am
$+y$
120 NEXT f
130 am=VAL(am$)
140 INPUT"Printer (n/y) ";x$:pr=UPPER$(x$)="Y"
150 rr=am*i/(1-(1+i)^-n) 'monthly repayment
160 itot=rr*n-am 'interest total
170 'Numeric display formats
180 cent$=".##"
190 f=LEN(STR$(INT(y)))-1:fy$=STRING$(f,"#"):fp$=fy$+"#
```

```
#" 'year and period
200 f=LEN(STR$(INT(r)))-1:fr$=STRING$(f,"#")+cent$ 'per
centage
210 f=LEN(STR$(INT(am)))-1:fam$="$$"+STRING$(f\3,","):f
=f-1
220 fam$=fam$+STRING$(f,"#")+cent$ 'amount
230 f=LEN(STR$(INT(rr)))-1:frr$="$$"+STRING$(f\3,","):f
=f-1
240 frr$=frr$+STRING$(f,"#")+cent$ 'repayment
250 f=LEN(STR$(INT(itot)))-1:fit$="$$"+STRING$(f\3,",")
:f=f-1
260 fit$=fit$+STRING$(f,"#")+cent$ 'interest total
270 'Display lines
280 head1$=fy$+" year loan of "+fam$+", at "+fr$+"%, re
payments "+frr$+" per month"
```

```
290 f=76:head2$=SPACE$(f):fline$=SPACE$(f):f=f\5
300 MID$(head2$,1)="Payment":MID$(fline$,1)=fp$
310 MID$(head2$,f)="Capital":MID$(fline$,f)=frr$
320 MID$(head2$,f*2)="Interest":MID$(fline$,f*2)=frr$
330 MID$(head2$,f*3)="Balance":MID$(fline$,f*3)=fam$
340 MID$(head2$,f*4)="Interest-to-date":MID$(fline$,f*4
)=fit$
350 'Headings in window 1
360 CLS:WINDOW#0,1,80,5,25:WINDOW#1,1,80,1,4
370 PRINT#1,title$:IF pr THEN PRINT#8,title$
380 x$="Repayment schedule:":PRINT#1,x$:IF pr THEN PRIN
T#8,x$
390 PRINT#1,USING head1$;y;am;r;rr
400 IF pr THEN PRINT#8,USING head1$;y;am;r;rr
410 PRINT#1,head2$:IF pr THEN PRINT#8,head2$:PRINT#8
420 'Process
430 bal=am:it=0
440 FOR p=1 TO n
450 ip=bal*i 'interest for previous period
460 cap=rr-ip 'reduction of capital
470 bal=bal-cap 'balance after payment
480 it=it+ip 'running total of interest paid
490 PRINT USING fline$;p;cap;ip;bal;it
500 IF pr THEN PRINT#8,USING fline$;p;cap;ip;bal;it
510 NEXT p
```


Year Disc 13



IS NOW HERE!

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CPC Database part 1

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

This database can be compared to a card index 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.

Picture CPCDBASE as 200 cards with up to nine lines each.

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. It is also a great way of introducing yourself to database operations.

```
10 ' CPC DBase
15 ' The Amstrad User
20 MEMORY 42500
30 DEFSTR a,z:field1=9
40 KEY DEF 66,1,32,32,32
50 DIM field$(9):DIM z(5)
60 CLOSEIN:PEN 1:INK 1,0:INK 0,24:BORDER 24:MODE 1:LOCA
TE 17,1:INK 2,2:PRINT"CPCDBASE":WINDOW 1,40,5,25:WINDOW
 #1,1,40,3,3:INK 3,6:WINDOW #2,1,40,25,25
70 ON BREAK GOSUB 2910
80 IF PEEK(43901)<>237 AND PEEK(43901)<>238 THEN GOSUB
2850
90 IF PEEK(43901)=238 THEN INK 2,8:INK 3,14
100 PRINT#1,"MENU MODE":PRINT"Select from:":PRINT
110 RESTORE:FOR g=1 TO 8:READ a
120 PRINT:PRINT"("MID$(STR$(g),2,1)") "a:NEXT
130 DATA Field entry,Record entry,List or order present
 file,Edit or delete a record,Save file/fields only,Loa
d file/fields only,Erase file,Exit program
140 WHILE INKEY$<>"":WEND
150 a="":WHILE a<"1"OR a>"8":a=INKEY$:WEND
160 ON VAL(a)GOTO 180,340,560,1370,1730,2220,2650,2710
170   '
180   '                       *** (1) FIELD ENTRY ***
190 CLS:PRINT#1,"FIELD ENTRY MODE"
200 LINE INPUT "Enter title of file:";title$:IF LEN(tit
le$)>20 THEN PRINT"TITLE TOO LONG.":GOTO 200
210 IF title$=""THEN title$="Unnamed file"
220 title$=UPPER$(title$):CLS:PRINT title$:WINDOW 1,40,
7,25:FOR g=1 TO field1
230 PRINT"Enter field no."MID$(STR$(g),2,1)":";:LINE IN
PUT field$(g)
240 IF LEN(field$(g))>20 THEN PRINT"FIELD TOO LONG.":GO
TO 230
250 IF RIGHT$(field$(g),1)=":"THEN field$(g)=LEFT$(fiel
d$(g),LEN(field$(g))-1)
260 IF field$(g)=""THEN PRINT"INVALID ENTRY.":GOTO 230
270 IF g=field1 GOTO 320
280 PRINT:PRINT"Another field? (Y/N)"
290 WHILE INKEY$<>"":WEND
300 a="":WHILE a<>"Y" AND a<>"N":a=UPPER$(INKEY$):WEND
310 IF a="Y" THEN CLS:NEXT
320 field=g
330 WINDOW 1,40,5,25:CLS:GOTO 100
340   '
350   '                       *** (2) RECORD ENTRY ***
360 'ON ERROR GOTO 2500
370 IF field=0 THEN PRINT#2,"NO FIELDS HAVE YET BEEN EN
TERED.":FOR pause=1 TO 1500:NEXT:CLS#2:GOTO 140
380 IF st=1 GOTO 410 ELSE st=1
390 num=INT(FRE("")/(field*30))
400 DIM rec$(num,field)
```

```
410 PRINT#1,"DATA ENTRY MODE"
420 WINDOW #3,21,40,5,5:CLS:PRINT title$:WINDOW 1,40,7,
25
430 FOR g=rec+1 TO num
440 CLS
450 PRINT#3,"Record"g:FOR h=1 TO field
460 PEN 2:PRINT field$(h)":";:PEN 3:LINE INPUT rec$(g,h
):PEN 1
470 IF LEN(rec$(g,h))>60 THEN PRINT"ENTRY TOO LONG.":GO
TO 460
480 NEXT:PRINT:PRINT"Enter another record? (Y/N)"
490 WHILE INKEY$<>"":WEND
500 a="":WHILE a<>"Y"AND a<>"N":a=UPPER$(INKEY$):WEND
510 IF a="Y"THEN NEXT
520 rec=g:field1=field
530 GOTO 60
540 PRINT"NO ROOM FOR ANY MORE RECORDS.":rec$(g,1)="":F
OR h=1 TO field:rec$(g,h)="":NEXT:num=g:GOTO 100
550  '
560  '                        *** (3) LIST/ORDER FILE ***
570 IF rec=0 THEN PRINT#2,"NO RECORDS HAVE YET BEEN ENT
ERED.":FOR pause=1 TO 1500:NEXT:CLS#2:GOTO 140
580 PEN 1:WINDOW 1,40,5,25:CLS:PRINT#1,"LIST/ORDER FILE
 MODE"
590 PRINT"Select from:":PRINT
600 RESTORE 610:PRINT:FOR g=1 TO 5:READ a:PRINT"("RIGHT
$(STR$(g),1)") "a:PRINT
610 NEXT
620 DATA List all records,List certain fields of all re
cords,Search through file,Order file,Return to main men
u
630 WHILE INKEY$<>"":WEND
640 a="":WHILE a<"1"OR a>"5":a=INKEY$:WEND
650 IF a="5"GOTO 60
660 ON VAL(a)GOTO 680,770,960,1230,60
670  '
680  '                        *** (3A) LIST ALL RECORDS **
*
690 CLS:PRINT Title$:PRINT#2," PRESS SPACE BAR TO STOP,
 ESC TO PAUSE":WINDOW 1,40,7,23
700 FOR g=1 TO rec:PRINT:PRINT"RECORD"g
710 FOR h=1 TO field
720 PEN 2:PRINT field$(h)":";:PEN 3:PRINT LEFT$(rec$(g,
h),39-LEN(field$(h)));MID$(rec$(g,h),40-LEN(field$(h)),
40)
730 IF INKEY$=" "GOTO 580
740 PEN 1:NEXT:NEXT
750 GOTO 2780
760  '
770  '                        *** (3B) LIST CERTAIN FIELDS
 OF ALL RECORDS ***
780 CLS
790 LINE INPUT"Type in the number(s) of the fields to
be listed: ",a
800 IF a=""THEN GOTO 830
810 FOR g=1 TO LEN(a):IF MID$(a,g,1)>="0"AND MID$(a,g,1
)<="9"THEN NEXT:GOTO 820 ELSE 830
820 IF VAL(a)=0 THEN GOTO 830 ELSE 840
830 PRINT"INVALID ENTRY.":GOTO 790
840 IF LEN(a)=1 THEN IF VAL(a)>field THEN PRINT"THERE A
RE NOT THIS MANY FIELDS.":GOTO 790 ELSE 860
850 FOR g=1 TO LEN(a):IF VAL(MID$(a,g,1))<=field THEN N
EXT:GOTO 860 ELSE PRINT"THERE ARE NOT THIS MANY FIELDS.
":GOTO 790
860 CLS:PRINT Title$:WINDOW 1,40,7,23
870 PRINT#2," PRESS SPACE BAR TO STOP, ESC TO PAUSE"
880 FOR g=1 TO rec
890 FOR h=1 TO LEN(a)
900 temp1=VAL(MID$(a,h,1))
910 PEN 2:PRINT field$(temp1)":";:PEN 3:PRINT LEFT$(rec
$(g,temp1),39-LEN(field$(h)));MID$(rec$(g,temp1),40-LEN
(field$(temp1)),40)
920 IF INKEY$=" "THEN GOTO 580
930 NEXT:NEXT:PRINT:GOTO 2780
940 END
950  '
960  '                        *** (3C) SEARCH THROUGH FILE
 ***
970 RESTORE 990
980 CLS
990 FOR g=1 TO 5:READ a1
1000 PRINT"Enter the "RIGHT$(STR$(g),1);a1" piece of da
ta to be found:";:LINE INPUT z(g)
1010 IF z(g)=""THEN PRINT"INVALID ENTRY.":GOTO 1000
1020 DATA st,nd,rd,th,th
1030 IF g=5 THEN 1070 ELSE PRINT"Do you want to search
for other data    simultaneously? (Y/N)"
1040 WHILE INKEY$<>"":WEND
1050 a="":WHILE a<>"Y"AND a<>"N":a=UPPER$(INKEY$):WEND
1060 IF a="Y"THEN CLS:NEXT
1070 CLS:temp=g
1080 flagA=0
1090 FOR g=1 TO rec:flagB=0
1100 a1=""
1110 FOR h=1 TO field
1120 a1=a1+rec$(g,h)+" "
1130 NEXT
1140 FOR h=1 TO temp:IF INSTR(a1,z(h))>0 THEN flagB=fla
gB+1:IF flagB=temp THEN flagA=flagA+1:GOTO 1170 ELSE NE
XT
1150 flag5=1:GOTO 1210
1160 IF flagA=0 GOTO 1190 ELSE IF g>rec THEN PRINT:PRIN
T:GOTO 2780
1170 IF flagA=1 THEN PRINT title$:WINDOW 1,40,7,25
1180 PRINT:PRINT"RECORD"g:FOR h=1 TO field:PEN 2:PRINT
field$(h)":";:PEN 3:PRINT LEFT$(rec$(g,h),39-LEN(field$
(h)));MID$(rec$(g,h),40-LEN(field$(h)),40):PEN 1:NEXT:G
OTO 1210
1190 PRINT"No record was found containing ";:FOR h=1 TO
 temp:PRINT z(h);:IF temp=1 THEN PRINT".":GOTO 2780 ELS
```

```
E IF h=temp-1 THEN PRINT" and "z(h+1)".":GOTO 2780
1200 PRINT", ";:NEXT:GOTO 2780
1210 NEXT g:IF flag5=0 THEN PRINT:PRINT:GOTO 2780 ELSE
flag5=0:GOTO 1160
1220  '
1230  '                        *** (3D) ORDER FILE ***
1240 CLS:PRINT"Enter number of field by which file is
to be ordered:"
1250 WHILE INKEY$<>"":WEND
1260 a="":WHILE VAL(a)<1 OR VAL(a)>field:a=INKEY$:WEND
1270 temp=VAL(a)
1280 SPEED INK 20,30:PEN #4,2:INK 2,24,0:WINDOW #4,1,40
,9,9:PRINT#4,"       SORTING FILE, PLEASE WAIT"
1290 FlagA=0:FOR g=1 TO rec-1
1300 IF rec$(g,temp)<=rec$(g+1,temp)GOTO 1330
1310 FOR h=1 TO field:temp$=rec$(g+1,h):rec$(g+1,h)=rec
$(g,h):rec$(g,h)=temp$
1320 NEXT:flagA=1
1330 NEXT:IF flagA=1 GOTO 1290
1340 IF PEEK(43903)=238 THEN INK 2,8 ELSE INK 2,2
1350 PEN #4,1:PRINT#4,"       File has been ordered.":F
OR pause=1 TO 1500:NEXT:GOTO 580
1360  '
1370  '                        *** (4) EDIT/DELETE A RECOR
D ***
1380 IF REC=0 THEN PRINT#2,"NO RECORDS HAVE YET BEEN EN
TERED.":FOR pause=1 TO 1500:NEXT:PRINT#2:GOTO 140
1390 CLS:PRINT#1,"EDIT/DELETE RECORD MODE"
dit a recor
elete a record"
1410 WHILE INKEY$<>"":WEND
1420 a="":WHILE a<>"E" AND a<>"D":a=UPPER$(INKEY$):WEND
1430 IF a="D" GOTO 1580
1440  '
1450  '                        *** (4A) EDIT A RECORD ***
1460 CLS
1470 LINE INPUT"Enter number of record to be edited:",a
:IF a=""GOTO 1570
1480 FOR g=1 TO LEN(a):IF MID$(a,g,1)<"0"OR MID$(a,g,1)
>"9"GOTO 1570 ELSE NEXT
1490 IF VAL(a)=0 GOTO 1570
1500 IF VAL(a)>rec THEN PRINT"THERE ARE NOT THIS MANY R
ECORDS.":GOTO 1470
1510 CLS:PRINT"Press ENTER alone to bypass a field.":PR
INT:PRINT
1520 FOR g=1 TO field
1530 PEN 2:PRINT field$(g)":";:PEN 3:PRINT LEFT$(rec$(V
AL(a),g),39-LEN(field$(g)));MID$(rec$(VAL(a),g),40-LEN(
field$(g)),40);TAB(LEN(field$(g)))"  ";:LINE INPUT a1
1540 IF a1=""THEN 1560 ELSE IF LEN(a1)>60 THEN PRINT"EN
TRY TOO LONG.":GOTO 1530
1550 rec$(VAL(a),g)=a1
1560 NEXT:GOTO 60
1570 PRINT"INVALID ENTRY.":GOTO 1470
1580  '
1590                        *** (4B) DELETE A RECORD **
*
ove fol
eave a blank record
*
1610 WHILE INKEY$<>"":WEND
1620 a="":WHILE a<>"M"AND a<>"L":a=UPPER$(INKEY$):WEND
1630 IF a="L"THEN flagA=1 ELSE flagA=0
1640 CLS
1650 LINE INPUT"Enter number of record to be deleted:",
a:IF a=""THEN 1720
1660 FOR g=1 TO LEN(a):IF MID$(a,g,1)<"0"AND MID$(a,g,1
)>"9"THEN 1720 ELSE NEXT
1670 IF VAL(a)=0 THEN 1720
1680 IF VAL(a)>rec THEN PRINT"THERE ARE NOT THIS MANY R
ECORDS.":GOTO 1650
1690 IF flagA=0 THEN FOR g=VAL(a) TO rec-1::FOR h=1 TO
field:rec$(g,h)=rec$(g+1,h):NEXT:NEXT:rec=rec-1:GOTO 17
10
1700 FOR g=1 TO field:rec$(VAL(a),g)="":NEXT
1710 PRINT:PRINT:PRINT"Record "a" has been deleted.":FO
R g=1 TO 1500:NEXT:GOTO 60
1720 PRINT"INVALID ENTRY.":GOTO 1650
1730  '
1740  '                        *** (5) SAVE FILE/FIELDS ON
LY ***
1750 IF field=0 THEN PRINT#2,"NO FIELDS HAVE YET BEEN E
NTERED.":FOR pause=1 TO 1500:NEXT:PRINT#2:GOTO 140
1760 CLS:PRINT#1,"SAVE FILE/FIELDS MODE":PRINT"Select f
rom:":PRINT:PRINT:PRINT"(1) Save whole file":PRINT:PRIN
T"(2) Save the fields alone"
1770 WHILE INKEY$<>"":WEND
1780 a="":WHILE a<>"1"AND a<>"2":a=INKEY$:WEND
1790 IF rec=0 AND a="1"THEN PRINT#2,"NO RECORDS HAVE YE
T BEEN ENTERED.":FOR pause=1 TO 1500:NEXT:GOTO 60
1800 PRINT:PRINT:PRINT"Saving speed Fast or Normal? (F/
N)"
1810 WHILE INKEY$<>"":WEND
1820 a1="":WHILE a1<>"F"AND a1<>"N":a1=UPPER$(INKEY$):W
END
1830 IF a1="N"THEN SPEED WRITE 0 ELSE SPEED WRITE 1
1840 IF a="2"GOTO 2050
1850  '
1860  '                        *** (5A) SAVE WHOLE FILE **
*
1870 CLS:PRINT"Press play and record on the tape, ""and
 ""then press the ENTER key."
1880 WHILE INKEY$<>"":WEND
1890 WHILE INKEY$<>CHR$(13):WEND:PRINT:PRINT"SAVING "ti
tle$"."
1900 ON BREAK GOSUB 2910
```

Keep your fingers poised and your mind sharp as we will continue with part 2 of the listing next month.

MASTERFILE III

FOR THE AMSTRAD CPC6128
(ALSO CPC464/664 WITH DK'TRONICS 64K RAM)

FIRMLY ESTABLISHED...

MASTERFILE III is now firmly established as THE filing system for the CPC6128.

For the benefit of newcomers to the CPC machines: MASTERFILE III is a powerful and flexible data filing and retrieval system. All "database" systems require that your data is organised into fields and records. Unlike most, MASTERFILE does not commit you to field lengths or formats, since ALL data is variable-length and optional. Files are not preformatted, and only used bytes are saved to disc. Also, unlike the rest, MASTERFILE allows multiple user-defined ways of viewing/printing your data. And unique in its price range, MASTERFILE offers RELATIONAL FILE options, whereby common data can be entered just once and shared by many records. Maximum field size is 240, maximum fields per record is over 50, and maximum file size is 64K. Room for 1,000 full names and addresses, for example. Only one disc drive is required. It is menu driven throughout, and comes with detailed illustrated manual, and example files.

SO VERY VERSATILE...

Just about ANY kind of information can be handled by MASTERFILE. You can EXPORT the data to other systems (eg. PROTEXT/MERGE and TASWORD). You can even merge your own USER BASIC to MASTERFILE for customised file processing, or build new files from other computer sources. The speed of SEARCH of MASTERFILE is second to none. Records can be sorted ascending/descending, character or signed numeric, even embedded keys such as surnames. Other functions are field-to-field calculations, and several-across label printing. We simply don't have room to list all the features; give us a call if you are still in doubt of the power of MASTERFILE III.

ALL THIS POWER...

This is no toy thrown together in BASIC and half-tested, but real machine-coded computing power professionally constructed. We have had IBM and Apricot users beg us for a MASTERFILE for their machines - when they had seen the earlier CPC MASTERFILE.

MASTERCALC 128

THE MODERN CPC6128 SPREADSHEET SYSTEM

This is the sister program to the famous MASTERFILE III, and is a fast and friendly spread-sheet program with high capacity (over 7,000 cells) and impressive speed. Like MASTERFILE, it is entirely machine coded. Like MASTERFILE, it needs just one disc drive and does not use CP/M and it uses the same optimised RAM bank-switch code. "Another exceptional utility from Campbell" said Popular Computing Weekly of the original MASTERCALC. The "128" edition is more powerful.

All spread-sheet systems allow manipulation of any array of numeric data.
What sets MASTERCALC 128 apart from the rest are these features:

Full-screen or split screen windows; variable column display width; variable column formats, 0-7 decimal places; columns can be formatted individually; ultra high-precision floating point arithmetic; direct totals and sub-totals; up to 99 relocatable formulae (usually 10 is ample!); formulae up to 75 characters, and arithmetic expressions, plus conditions, relative cell references; instant highlight of computed data; store text anywhere; pop-up help menu; 40/80 column mode; auto cursor-advance; text output to printer or to disc for word processing; fast hi-res histogram of any 3 rows; Epson screen dump; detailed manual with illustrated tutorial.

For the enthusiast, there is even USER BASIC access to the cell data, so that special operations can be performed. For example, it is possible to ship data to/from MASTERFILE III.

MASTERCALC 128 costs just $99.00 and **MASTERFILE III** costs $109.00 (excluding postage and packing). Bankcard, Mastercard or Visa accepted.

Send your order now to:
THE AMSTRAD USER
1/641 High Street Road,
Mount Waverley,
Victoria 3149. **Tel (03) 233 9661.**

Publishing on Fleet Street

This month, Joseph Elkhorne ponders the complexities of desktop publishing, with Mirrorsoft's Fleet Street Editor.

Time marches on! A few months ago, I reckoned that the PC-20 was value for money, and that I intended to have one in the near future.

Well, in January, I put my money where the mouth was: now I'm wondering how to set up two computers in a study so small there's not room enough to swing a cat, or even a mouse! Naturally, I'll continue to run the 6128 to utilise CPM.

Several considerations prompted the purchase of the PC-20: my word processing requirements have fairly well outgrown Tasword; telecommunicating with the 6128 left much to be desired, and, finally with a MS-DOS machine at home, I can transport files to and from my day job.

Having used several versions of WordStar and, more recently, Word Perfect, as well as PC-Write, I'm accustomed to the bells and whistles of the up-market packages. Changing one's mind from one application to another, as well as the differences in keyboard layouts, can be annoying.

In my experience with bulletin board practise, I've found that "quoting" in messages is an advantage. Some BBSers sneer at Opus as having outlived its usefulness - one area in which it still excels is message chaining. This simply means you can look at a previous relevant message to refresh your memory if the present comments aren't self-explanatory.

More up-to-date bulletin board software has some great features and the chaining is often hopeless. Thus the use of the Full Screen Editor, which requires ANSI capability, is advisable. Besides, ANSI pictures are nicer to look at, particularly in color!

After only a couple of months of initial BBSing, I found that 300 baud was too slow, and upgraded to a 2400 baud modem. Although the 6128 is theoretically capable of the higher speed, in practise one can get data overrun. The firmware in the Pace serial i/f works well in downloading files - but extended data transfer from the host (as in an autopilot run in Tradewars) will certainly yield corrupted and missing information.

With all the potential capabilites of the 6128, it's too bad there isn't an up to date comms program for it. One advantage the Pace firmware has though, is the writing to a 24K buffer. This allows the user to locally scroll back through the communication.

Still, the lack of ANSI and the "other" extended character set is a disadvantage, and working from AMSDOS ties one to the puny disc capacity.

I've investigated several PD comms programs, but nothing I've come across fills the bill. The XMODEM file transfer mode was already obsolete when Pace wrote the comms firmware too.

Reading the user manual and the firmware guide would lead one to suspect it would be possible to write a state-of-the-art program from the 6128. Anyone want to try? Or, if you know of some singing-and-dancing program in existence, drop us a line.

I reckon it would have to be a CPM oriented application, so as to use a decent-sized (720K) outboard drive.

FLEET STREET EDITOR

And now, on to the main event, for which the esteemed editor has been waiting with bated breath...

What we're reviewing this month, courtesy of Angela West, marketing executive of Mirrorsoft Ltd. is "the world of personal publishing on your micro" - the program runs on both the expanded 464/664 and the 6128.

What you need for this disc-based application is an appropriate computer and an Epson compatible computer. A joystick or mouse is optional.

Fleet Street Editor is made up of three departments: the Art Studio, in which you can design your own graphics, or call up files from the supplied Graphics Library; the Copydesk, which combines a rudimentary word processor with a page makeup system; and an Administration or housekeeping department.

The FSE package comes with two discs and a manual in 2- ring format. "When all else fails, read

FLEET STREET Editor

CITY OF LONDON EC4

the book," is one axiom that will be called on for hours of study. No DTP package is overly user-friendly, it seems. The hack it and see approach will not help you much.

Indeed, the number of times something goes catastrophically wrong will be frustrating to the first-time user. FSE is a powerful set of tools, marred by an inadequate manual and internal inconsistencies, in my estimation.

Having been previously exposed to Pagemaker, Ventura and Digital Research's GEM programs, I can only feel sympathy for someone tackling desktop publishing for the first time.

The manual does have an index, several useful appendices, and an itemised table of contents. It provides much useful information - where it falls down is in clarity of presentation, accuracy, and ease of use.

I'm not proposing that any potential user violate the copyright warning by photocopying some (or all) of the manual; but I am warning you that you'll probably wear it out before you come to grips with Fleet Street Editor.

After receiving the review copy, I rushed home to try it out. A cursory inspection led to Chapter Three, "Guided Tour" and the first discrepancies. Then I found an Addendum at the back of the book, explaining the "easier and quicker to use" updates for Version 1.1.

The first time I was "into it," it locked up - or so I thought. With nothing happening on the monitor after a selection and no response to the Escape key, or anything else, I hit Ctrl-Atl-Del in despair.

Later, I decided that might have been a hasty decision, as the processing time for some actions is considerable. But on-screen messages would help the user know what's going on.

After the book's Guided Tour, the next chapter speaks at length of the Art Studio, and use of the graphics library. Here, you produce pictures to illustrate your newsletters or other DTP tasks. A number of electronic tools based on the more traditional art director's arsenal exist.

A set of icons appears across the top of the display. Too bad they were not utilised to enhance the manual. Indeed, the book itself was typeset. The only relevant illustrations are in the appendices, and there are some Figures throughout the text which are presumably screen shots.

If I had a program I was proud of, you can bet any number of samples would reside in the book.

The first tool discussed is a Brush. Eight options for width and height are available. Either the cursor arrow keys can be used, or joystick or mouse, if available. Although the latter will perform most of the drawing functions, you'll still have to use the keyboard Shift and Spacebar for drop-down menus and function choices. Pity, that.

With the brush, one does freehand drawing. If you don't like any of the eight choices provided, you do have the option of defining your own pattern.

A Draw function lets you place straight lines in any direction. You'll use the Spacebar to mark the starting point, move the cursor to the end position and hit Space to draw the line. Once a line is drawn, the cursor can be moved for another, and another, and...

There's a Box function too — here, you set the diagonal points. Duplicate cursors on the horizontal and vertical rulers let you position boxes quite precisely.

A clear menu lets you erase all or part of the screen.

One of the more curious functions is called Face. This lets you do a temporary save on a graphic image whilst holding the original in memory. If you don't like your changes, you simply Get the original back and no work is lost.

Move allows you to copy or move all or part of an image from one screen area to another.

Although this is a graphic department, you can still place Text with that command. This feature can be handy for special representations of words, more akin to drawing with letters, than placing them in the relatively fixed fashion used in wordprocessing modes.

A Zoom function lets you examine and edit small areas of the image - an electronic magnifying lens. Editing is done pixel by pixel.

Naturally, you'd expect a Circle tool and you get one. The cursor is positioned for the centre; Copy enlarges it, whilst Control reduces it. Spacebar then draws it.

Areas which are fully enclosed - boxes, circles, or irregular closed shapes can be Filled. Again, eight patterns are ready-made for you, with a ninth choice definable.

Rotate, Reflect and Inverse tools allow manipulation of shapes already created. Additionally, a Size function lets you modify height, width or both.

Disk allows loading or saving graphics images, which have a .BIN filetype. The library disc supplied contains 43 files of various images, from zodiac signs to computers, icons, maps, animals and even heraldic devices.

Appendix I describes these as 'pages' whilst the disc itself suffices with LIBARYnn.BIN. Ho hum; and this, after the admonition on page 6.4: "Use filenames that give a clear indication the contents of the file." (Sic!)

We bid farewell to the Art Studio and proceed to the Copydesk. Here you can lay out a page, setting up a format, type in text, and add graphics previously created.

As before, there are a number of options and choices within these. Two margins; fonts comprise 10 normal sized, two double and two triple; all of them can be normal or bold; columns can be one, two or three; and three forms of justification (alignment) are offered.

A menu bar resides on the top row, immediately above the line ruler. A column ruler is to the left. Drop-down menus are accessed by using the cursor left-right keys, and choices within these by the up-down ones.

Once again, the optional joy stick or mouse cannot be used for your choices, but the keyboard alone.

The Escape key gets a good workout here, usually toggling from menu to text edit mode. It seems likely the two software authors never spoke to one another: the most commonly used control keys in the Art Studio are Space and Shift.

Aside from the straight text options, one can choose a cut-and-paste facility, as well as copy.

If you try to put more text in a column than it will hold, the "overflow" can be put in a buffer, rather than lost.

Layout changes can be made after you've done a bit of work, to enhance the page appearance, make room for graphic material, or even change formats.

There is even a limited drawing facility within the Copydesk, to allow drawing of lines and boxes to improve the appearance of the text. Three thicknesses of lines here are offered to the user.

Naturally, once you've done a job, you need to save it to disc. The extension .PAG is used for a whole page file.

Also, there is an option to save text only - as opposed to the pixel oriented .PAG files. One merely marks the text block as in cut/copy mode, goes to the File menu and chooses the Save text option.

The manual makes a point of mentioning that the file contains only text, without special formatting data - and can be easily reformatted to fit a different layout.

I found this intriguing. Working up a short file, I saved it, exited FSE and fired up Tasword. Lo and behold, I was able to call the text file in without problems. Some strange characters did appear on screen, which obviously mean something to Fleet Street.

If I can do this, thought I, why not export existing Tasword files? The FSE manual was strangely silent on this topic. Nothing ventured, nothing gained - and I gave it a go. Once again, I feared I'd hung up the machine.

This time however I went to get a drink (sort of on the lines that a watched pot never boils). When I returned to my study, my Tasword file was nicely formatted on screen.

Granted, there was a bit of corruption at the end, but it vanished in a scrolling operation. I didn't even have to use the Ctrl-Tab cleanup. Mind you, I'm not guaranteeing perfect results using this technique - I'd have to work with this "import" lurk a fair while before recommending it to anyone else. But the potential is there.

The user might have to split an existing wordprocessor file into little chunks that FSE would be happy with. That it can be done at all raised the product considerably in my estimation. I did use the .TXT extension in Tasword.

This is such a powerful tool, I'm surprised the Mirrorsoft people disregarded it. Maybe there are bugs lying in wait for the daring experimenter.

Finally, after all the trauma of creating a page or more of beautiful copy, there is a hard copy option. Both draft and quality print modes are supported - on any Epson compatible printer. As I do not have one, I cannot comment on either the operation or the appearance. My printer is not a Brand X device; but one from a multi-national company who prefers their own "standard."

I know it's asking a lot, but I'd reckon Mirrorsoft could make quids more by providing alternative printer drivers. After all, if shareware authors can do it (viz. PC-Write) a commercial organisation ought to.

Lastly, we have the Administration Department. Only a few areas to cover here: file, data drive and colours.

File is for disc maintenance, and allows you to erase (careful!), rename and convert files. The latter tool lets you use screen piccies from foreign graphics programs.

No surprises in the second menu. It merely allows you to use Drive B for read/write.

Colours lets you choose Paper and Ink settings. Getting away from the drab black and white default certainly looked nice on my colour monitor. I'd assume from the contrast levels that the appearance on a green screen would be quite acceptable to any user.

Fleet Street Editor's manual culminates in a chapter about the publishing process as an idea, with tips on good presentation. Aspects of reproduction are also covered, as well as binding the finished product.

Appendix 1, as mentioned earlier, shows you the Graphics Library in hard copy, which will save time. Use this as reference, rather than loading a number of "LIBARYnn" files.

The second appendix illustrates the various fonts.

Finally, there is a reasonable index.

If you, gentle reader, need to do some desktop publishing on a small scale, do consider using Fleet Street Editor. Be prepared to take a fair bit of time in learning its idiosyncrasies. It's not a "ten" but would certainly be considered value for money.

As for next month, who knows? That's why I called the column "Serendipity." See ya then! ■

Adding Character

James Cartledge has provided us with a rather useful Font Generator/Editor for artistic PCW users.

Tired of using the same old fonts? Well now you can define your own with this handy little program sent in to us by James Cartledge. Unfortunately, they cannot be printed which limits them to on-screen use only but there are still plenty of applications in which you will find it useful (defining characters for games dare I say?).

MENU OPTION 1

USE NEW CHARACTER SET

This is the option that you are presented with upon running FONTGEN. It is also accessible via the main menu by selecting Option 1.

This option defines which character set the characters you will edit are to be taken from. This is not necessarily the character set they will be stored to.

If you select "Start new font" you will be prompted for a filename. This must be no longer than 8 characters. This option will give you a blank font file to start work on.

MENU OPTION 2

EDIT CHARACTER

Upon selecting this option, you will be prompted for the letter you wish to edit. This may be anything in the range of a-z, A-Z or 0-9.

The details of the character you select will then be read from the file you selected earlier, then you will be presented with an 8x8 grid consisting of dots and blobs. If you selected a new font to start with, your grid will be blank. Your cursor is in the top left hand corner of the grid. It can be moved with the cursor keys and a blob may be placed or removed with the space bar. Each blob represents a bright pixel on the screen. If you wish to blank a line, press CUT.

When you have finished editing your character, press EXIT. You will now be presented with a menu asking whether you wish to Save your Character to memory, to disc or to scrap the character.

If you choose the Scrap Character option, you are returned to the main menu, and the character is discarded.

MENU OPTION 3

LOAD SCREEN C/SET

This option enables you to display your fonts on the screen. You will be shown the available fonts to select from. Type the number of the font you wish to see. A short pause will follow, then your font will be displayed.

MENU OPTION 4

SHOW CURRENT SET

This option will display the editable character set on the screen, allowing you to see any changes made to it.

MENU OPTION 5

QUIT

This option returns you to Mallard Basic.

```
10 'Change characters!
20 ' Machine code
30 DIM name$(20):MEMORY &HBFFE:F
OR hex=&HC070 TO &HC098:READ pk:
POKE hex,pk:NEXT
40 DATA 243,62,129,211,241,62,13
0,211,242,175,95,103,22,184,58,1
53,192,111,41,41
50 DATA 41,25,17,154,192,235,1,8
,0,237,176,62,133,211,241,62,134
,211,242,251,201
60 e$=CHR$(27):cls$=e$+"E"+e$+"H
":DEF FNa$(x,y)=e$+"Y"+CHR$(x+32
)+CHR$(y+32)
70 ' Sign-on & Load in Character
 set.
80 PRINT cls$:GOSUB 190
90 PRINT cls$"
                    Font Generator/E
ditor"
```

```
100 PRINT"
            $James Cartledge"
101 PRINT"
                MAIN MENU"
110 FOR jj=1 TO 8:bin$(jj)="":de
c(jj)=0:NEXT:PRINT:PRINT:PRINT T
AB(30)"Use new Character Set ...
..... 1"
120 PRINT TAB(30)"Edit Character
 ..... 2"
130 PRINT TAB(30)"Load Screen C/
Set ..... 3"
135 PRINT TAB(30)"Show current s
et ..... 4"
140 PRINT TAB(30)"Quit .....
..... 5"
150 i$=INPUT$(1):IF VAL(i$)<1 OR
 VAL(i$)>5 THEN 150
160 ON VAL(i$) GOSUB 180,250,960
,1200,950
170 GOTO 90
180 PRINT cls$:i%=0
190 i%=i%+1:name$(i%)=LEFT$(FIND
$("*.fnt",i%),8):IF name$(i%)=""
 THEN 200 ELSE 190
200 PRINT TAB(35)"USE WHICH FONT
?":FOR a%=1 TO i%-1:PRINT TAB(30
)name$(a%)"....."a%:N
EXT:PRINT TAB(30)"START NEW FONT
 ....."i%
210 i$=INPUT$(1):IF VAL(i$)<1 OR
 VAL(i$)>i% THEN 210
220 IF VAL(i$)=i% THEN INPUT "Na
me of new Font :",name$:name$=LE
FT$(name$,8)+".fnt":RETURN
230 name$=name$(VAL(i$))+".fnt"
240 RETURN
250 INPUT "Letter - ",l$:char=AS
C(l$)
260 IF char<48 OR char>122 THEN
GOTO 250
270 IF char>64 AND char<91 THEN
char1=char-55:GOSUB 690
280 IF char>96 AND char<123 THEN
 char1=char-61:GOSUB 690
290 IF char>47 AND char<58 THEN
char1=char-48:GOSUB 690
300 ' Editing Screen
310 PRINT cls$SPC(10)e$"pUse cur
sor keys to move, space-bar to t
oggle pixel on or off."e$"q"
320 PRINT FNa$(8,40)"Editing : "
CHR$(char)
330 PRINT FNa$(10,39)CHR$(134)ST
RING$(8,CHR$(138))CHR$(140)" DEC
. HEX."
340 FOR x=11 TO 18:PRINT FNa$(x,
39)CHR$(133)SPC(8)CHR$(133)" "h(
x-10)FNa$(x,57)HEX$(h(x-10)):NEX
T
350 PRINT FNa$(19,39)CHR$(131)ST
RING$(8,CHR$(138))CHR$(137)
360 x=11:y=40:FOR x1=10 TO 18:PR
INT FNa$(x1,y)bin$(x1-10):NEXT:P
RINT FNa$(x,y);
370 ' Control routine
380 i$="":WHILE i$="":i$=INKEY$:
WEND
390 IF i$=CHR$(31) AND x>11 THEN
 x=x-1
400 IF i$=CHR$(30) AND x<18 THEN
 x=x+1
410 IF i$=CHR$(6) AND y<47 THEN
y=y+1
420 IF i$=CHR$(1) AND y>40 THEN
y=y-1
430 IF i$=CHR$(27) THEN 500
440 IF i$=" " AND MID$(bin$(x-10
),y-39,1)="." THEN MID$(bin$(x-1
0),y-39)="":GOSUB 650:GOTO 470
450 IF i$=" " AND MID$(bin$(x-10
),y-39,1)="" THEN MID$(bin$(x-1
0),y-39)=".":GOSUB 650
460 IF ASC(i$)=21 THEN bin$(x-10
)=".....":GOSUB 650
470 PRINT FNa$(x,40)bin$(x-10);F
Na$(x,0)SPC(8)FNa$(x,40)bin$(x-1
0)FNa$(x,y);
480 GOTO 380
490 ' Poke character into memory
.
500 FOR a=1 TO 8:FOR k=1 TO 8:d$
(k)=MID$(bin$(a),k,1):NEXT
510 FOR j=8 TO 1 STEP -1:IF d$(j
)="." THEN dec(a)=dec(a)+(2^(8-j
)) ELSE dec(a)=dec(a)
520 NEXT:NEXT:PRINT cls$
530 PRINT TAB(30)"Character to M
emory ..... 1"
540 PRINT TAB(30)"Character to D
isk ..... 2"
550 PRINT TAB(30)"Scrap Characte
r ..... 3"
560 i$=INPUT$(1):IF VAL(i$)<1 OR
 VAL(i$)>3 THEN 560
570 ON VAL(i$) GOSUB 580,790,630
:RETURN
580 PRINT"Old Character ="CHR$(c
```

```
har)
590 POKE &HC099,char
600 FOR i=1 TO 8:POKE &HC099+i,d
ec(i):NEXT:cl=&HC070:CALL cl
610 PRINT"New Character ="CHR$(c
har)
620 FOR i=1 TO 8:bin$(i)="......
..":NEXT:PRINT"HIT ANY KEY":i$=I
NPUT$(1):i$=""
630 RETURN
640 ' Work out values
650 FOR k=1 TO 8:d$(k)=MID$(bin$
(x-10),k,1):NEXT
660 FOR j=8 TO 1 STEP -1:IF d$(j
)="<" THEN dec(x-10)=dec(x-10)+(
2^(8-j)) ELSE dec(x-10)=dec(x-10
)
670 NEXT:PRINT FNa$(x,50)dec(x-1
0)"  "FNa$(x,57)HEX$(dec(x-10))"
 ":dec(x-10)=0:RETURN
680 ' Load character from charac
ter set.
690 OPEN "R",1,name$,1
700 FIELD 1,1 AS z$
710 FOR i=0 TO (char1*8)-1:GET £
1:NEXT
720 FOR n2=1 TO 8
730 GET £1:h$(n2)=STR$(ASC(z$))
740 NEXT
750 FOR a=1 TO 8:h(a)=VAL(h$(a))
:b=h(a)
760 i=256:WHILE i>1:i=i-i/2:IF b
>=i THEN b=b-i:bin$(a)=bin$(a)+"
<" ELSE bin$(a)=bin$(a)+"."
770 WEND:NEXT
780 CLOSE 1:RETURN
790 PRINT cls$TAB(32)"Save to wh
ich Font File?":i%=0
800 i%=i%+1:name$(i%)=LEFT$(FIND
$("*.fnt",i%),8):IF name$(i%)=""
 THEN 810 ELSE 800
810 FOR a%=1 TO i%-1:PRINT TAB(3
0)name$(a%)"..............."a%:
NEXT:PRINT TAB(30)"START NEW FON
T ........."i%
820 i=VAL(INPUT$(1)):IF i<1 AND
i>i% THEN 210
830 IF i=i% THEN INPUT "Name of
new Font :",file1$:file1$=LEFT$(
file1$,8)+".fnt"
840 IF i>0 AND i<i% THEN file1$=
name$(i)+".fnt"
850 INPUT "Save as Letter :",cha
r2$:char2=ASC(char2$)
860 IF char2<48 OR char2>122 THE
N 850
870 IF char2>64 AND char2<91 THE
N char2=char2-55:GOTO 900
880 IF char2>96 AND char2<123 TH
EN char2=char2-61:GOTO 900
890 IF char2>47 AND char2<58 THE
N char2=char2-48
900 OPEN "R",1,file1$,1
910 FIELD 1,1 AS z$:FOR i=0 TO (
char2*8)-1:GET £1:NEXT
920 FOR a=1 TO 8:LSET z$=CHR$(de
c(a)):PUT £1:NEXT
930 CLOSE 1
940 RETURN
950 END
960 'Font loader
970 PRINT CLS$:i%=0
980 i%=i%+1:name$(i%)=LEFT$(FIND
$("*.fnt",i%),8):IF name$(i%)=""
 THEN 990 ELSE 980
990 PRINT TAB(35)" LOAD WHICH FO
NT?":FOR a%=1 TO i%-1:PRINT TAB(
30)name$(a%)"..............."a%
:NEXT
1000 i=VAL(INPUT$(1)):IF i<1 OR
i>i%-1 THEN 1000 ELSE name$=name
$(i)+".fnt"
1010 PRINT"Please wait..."
1020 OPEN "R",1,name$,1
1030 FIELD 1,1 AS z$
1040 c=&HC070
1050 q1=48:q2=57:GOSUB 1110
1060 q1=65:q2=90:GOSUB 1110
1070 q1=97:q2=122:GOSUB 1110
1100 CLOSE:PRINT"ABCDEFGHIJKLMNO
PQRSTUVWXYZabcdefghijklmnopqrstu
vwxyz1234567890":PRINT"Hit any k
ey":i$=INPUT$(1):RETURN
1110 FOR n=q1 TO q2
1120 POKE &HC099,n
1130 POKE &HC089,0:CALL c:POKE &
HC089,&HEB
1140 FOR n2=1 TO 8
1150 GET £1:POKE &HC099+n2,ASC(z
$)
1160 NEXT
1170 CALL c
1180 NEXT
1190 RETURN
1200 PRINT cls$"ABCDEFGHIJKLMNOP
QRSTUVWXYZabcdefghijklmnopqrstuv
wxyz1234567890":PRINT"Hit any ke
y":i$=INPUT$(1):RETURN
```

Working with phrases

Read on and expand your Protext horizons as John Barlow explains the do's and dont's of creating and storing phrases.

Last month I touched briefly on the subject of phrases and mentioned how my initial attempts to create them in Protext almost won me a holiday in Mumbling Gums Nursing Home for the Potentially Insane.

If it affected me to that extent, and I virtually live on Valium, others will also have suffered the same fate. This month then, we'll take a closer look at the Protext system of creating and storing permanent phrases and how the writer can use this powerful facility to produce more professional manuscripts.

A PROTEXT PHRASE

Arnor have made provision for two types of phrase file in Protext. The first is a temporary file and is created in DOCUMENT mode, which is the default mode used during the normal edit process. The second is a file created in PROGRAM mode and is permanently stored on disc.

In the first instance, all that is needed to create a Phrase file is to exit from edit mode, type KEY, nominate the appropriate letter, then define the phrase. Whenever that particular phrase is needed, all one has to do is type Extra-<nominated letter> (see figure 1). Phrases created in this way will remain in memory until the computer is switched off, at which time they will be lost forever.

This system of creating phrases can be equated to the LocoScript system of building the required phrase in the text, copying it, then storing it under a letter in the temporary phrases buffer (see figure 2). To permanently store the particular phrase or phrases, one would then call up the Save Phrases menu (F8 in Loco 1) and they would be saved to disc for use next time. Unfortunately, the creation of a permanent phrase file in Protext is not so simple - particularly when it comes to creating phrases containing printer control codes.

Because phrases are created in command, rather than edit mode, these codes aren't recognized. This means that they must be entered as ASCII or Hex codes. It is necessary, therefore, to create a phrase file as a PROGram, rather than a DOCument.

GREETINGS AND SALUTATIONS

Once you have worked out which keys you want to perform each function, enter command mode and type PROG. The first status line at the top of the screen will indicate the change from DOCument mode to PROGram mode. Let's say, for example, that you want to store such phrases as the opening salutation, 'Dear Sir', the closing salutation, 'Yours faithfully' followed, three lines further down the page, by your name; a non-break space/elongated dash/space; and a customized page throw which also indicates that the manuscript continues on the following page.

First press Exit (or Stop) to switch from command to edit mode. Now, assuming that you haven't been editing any text and you still have your Start of Day disc in drive A, you should be looking at a completely blank

```
PROTEXT  Document phrase          13K   Justify Off          Word-Wrap    ALT-H for Help
Page 2   Line 21   Col 1                No markers set                          Insert
L---!-------------------------------!---------------!---------------------R
phrases and how the writer can use this powerful facility to produce more
professional manuscripts. ↵
▯A PROTEXT PHRASE▯↵
→   Arnor have made provision for two types of phrase file in Protext. The
first is a temporary file and is created in ▯DOCUMENT ▯mode, which is the
default mode used during the normal edit process. The second is a file
created in ▯PROGRAM ▯mode and is permanently stored on disc.↵
→   In the first instance, all that is needed to create a Phrase file is to
exit from edit mode, type KEY, nominate the appropriate letter, then define
the phrase. Whenever that particular phrase is needed, all one has to do is
type Extra-<nominated letter> (see figure 1). Phrases created in this way
will remain in memory until the computer is switched off, at which time
they will be lost forever.↵
↵
→   →                                →                →                  ▯mf:▯↵
  PROTEXT v2.02 (c) Arnor 1986        Reading from M                    Printer: PCW
a>key
Enter key (A-Z): W
Enter phrase:    Protext
```

Figure 1.

screen. Type: KEY O (for OPENING salutation) "DearSir, ↑13↑↑13↑↑9↑."

Unlike the temporary phrase file, the whole of the phrase should be enclosed in inverted commas. This phrase will give you your opening salutation, followed by two hard Returns and a Tab, and will get you to the starting position for the first line of text in your letter. The 13's are the ASCII codes for Return, while the 9 is the ASCII code for Tab. The upwards arrow (↑) is an escape character and denotes that the numbers contained between them are ASCII or HEX codes. It can be obtained by typing Extra-; [semicolon].

Your whole closing salutation can be given its own phrase by typing: KEY C (for CLOSING salutation) "↑9↑↑9↑↑9↑Yours faithfully,↑13↑↑13↑↑13↑↑13↑↑9↑↑9↑↑9↑ Joseph B Bloggs↑13↑"

Both the above phrases assume you have Tab markers in place (three, in the latter case). Although they may look awkward on the printed page, when typing them in Program mode, Word-Wrap and rulers are automatically turned off and the text will scroll across into the next section of screen. The Tab code can, of course, be left out of the string if you prefer your correspondence to be printed in the more modern 'block' style.

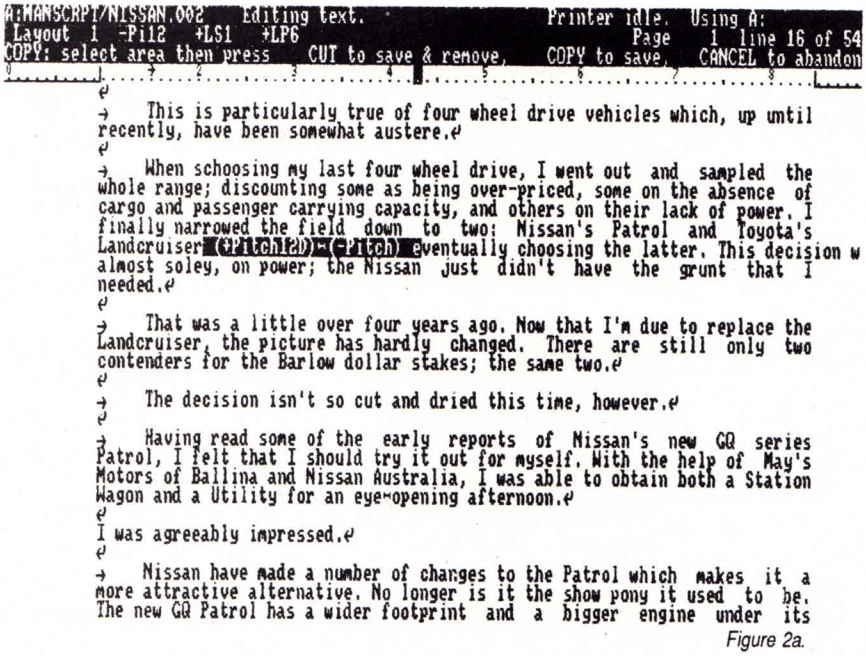

Figure 2a.

WITH A DASH

So far, the phrases have been fairly straight forward. The difficulties become evident when you start building phrases containing printer control codes. Because they can save you numerous keystokes, however, they are well worth the small degree of mental anguish involved in their creation. The first of these - the non-break space/elongated dash/space - would take fifteen keystrokes, for example, and, apart from becoming a chore, would interfere with a writer's train of thought. Unfortunately there are now simpler solutions. Even the typing in of a hyphen while the creative juices are flowing, then using the Find and Exchange facility to replace it later, won't work because Replace doesn't recognize the printer control codes needed to implement the exchanges. Building a permanent phrase, therefore, is the only answer.

As in the earlier examples, type in KEY followed by the nominated letter (I have used D for DASH - as opposed to H, which is allocated to a non-break HYPHEN). Next, type:
"↑14↑↑32↑↑24↑↑108↑↑14↑↑45↑↑24↑↑108↑↑14↑↑32↑". And there you have it. Fifteen keystrokes reduced to two: Extra-D.

Fourteen (14) in this case, is the ASCII code for Alt-N, and 32, the code for Space; both of which combine to give you a non-break space. Twenty-four (24) is the ASCII code for Alt-X, and 108 is the code for lower case 1 (the opposite of 'eaven); thus switching enlarged type on and off. Forty-five (45) is the ASCII code for the hyphen.

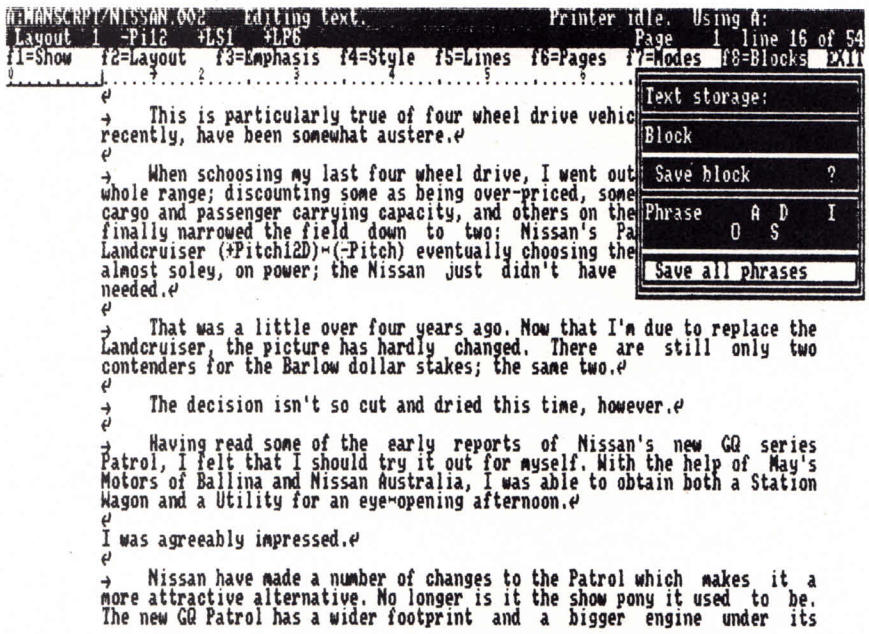

Figure 2b.

Those who prefer the double, non-break hyphen would type in the codes: "↑14↑↑32↑↑14↑↑45↑↑14↑↑45↑↑14↑↑32↑".

Many of these codes can be found in the Appendix section of your Protext manual. Those that aren't covered there can be found in the CP/M section of your Amstrad manual under Appendix I: Character sets (try pages 113-118). Writers who prefer not to have a space preceding and following the dash can simply delete the relevant codes (↑14↑↑32↑).

AND THERE'S MORE

The final example is an alpha/numeric string which condenses a number of actions into a single, two-keystroke command. At the same time, it enables the writer to overcome the problem of a page-break occuring in the middle of a paragraph. "Widows and Orphans", as this condition is known, is not favoured by publishers; most of whom like pages to contain only completed paragraphs. Unfortunately, broken paragraphs can't be switched off in Protext - as it can in LocoScript - so page breaks must be inserted by the author.

Typesetters, too, are a fussy lot. Not only do they like pages to contain unbroken paragraphs, they also like to know whether or not the page they are setting is the last one. In an attempt to avoid ruffling the feathers of these paragons of the publishing world, most writers end each page of a continuing manuscript with the code, 'mf:' (meaning, more follows), 'mtc' (more to come) or, simple 'more'. The following phrase addresses both these requirements (see figure 3).

After one again inserting KEY followed by the nominated letter (mine is M) type:

```
PROTEXT  Document phrase          13K   Justify Off          Word-Wrap    ALT-H for Help
Page 6   Line 27   Col 1                No markers set                          Insert
L---!-------------------------------!---------------!---------------------R
completed paragraphs. Unfortunately, broken paragraphs can't be switched
off in Protext.▲▼-▼.as it can in Locoscript.▲▼-▼.so page breaks must be inserted
by the author. ↵
→   Typesetters, too, are a fussy lot. Not only do they like pages to
contain unbroken paragraphs, they also like to know whether or not the page
they are setting is the last one. In an attempt to avoid ruffling the
feathers of these paragons of the publishing world, most writers end each
page of a continuing manuscript with the code, '▶mf:▶' (meaning, more
follows), '▶mtc▶' (more to come) or, simply, ▶'more▶'. The following phrase
addresses both these requirements (see figure 3). ↵
↵
→   →                                →                →                    ▶mf:▶↵
>PA↵
↵
→   After once again inserting KEY followed by the nominated letter (mine
 PROTEXT v2.02 (c) Arnor 1986        Reading from M                    Printer: PCW
a>
```

Figure 3.

"↑13↑↑9↑↑9↑↑9↑↑9↑↑24↑↑98↑mf:↑24↑↑98↑↑13↑>PA↑13↑↑13↑". Twenty keystrokes squeezed into a simple, Extra-M- the effect of which, is to insert a line, insert the required bold 'mf:' on the right margin, insert the page-break command at the beginning of the next line, then two more returns to bring the cursor down to the first line of the new page.

Because this phrase inserts three lines before the page-break and one line after it, it is suggested that you leave your mf/pa string out of the text until just prior to running off your final draft; otherwise you may find you are using more paper than a print-shop in full production.

WARNING! WARNING!

Two words of warning should be sounded at this point. Firstly, the default buffer size allocated to phrases in Protext is only 200 bytes. Unless this has been expanded, it won't hold very many phrases of the size of those set out above. If, during the loading of your phrase file, you get the message, 'phrase too long', you will have to delete a few superfluous strings; otherwise, the preceding phrases will be automatically deleted from the buffer to make room for those still to come. The first to go should be the opening and closing salutations - which are merely covered here as examples. It is probably more economical to incorporate them into your correspondence templates, anyway.

The second warning concerns the Protext manual. It is vague in some areas, lacks factual substance in others, and is downright confusing in still others. This last point is particularly true on the subject of the use of the upwards arrow (↑) and the vertical bar (|)

Although both are escape symbols, they are not interchangeable. The manual for version 2.02 states that the former should be used in the case of temporary phrase file but that the latter should be used when building permanent files. This is not the case. The upwards arrow should be used as an escape symbol for both temporary and permanent phrase files. The vertical bar can only be used in EXECutive file such as EXFILE and STARTUP.

Once you have defined your phrases, press Exit to return to command mode then save the file under whatever name you choose. I have simply called mine PHRASES. When it has been saved, press f1 to see a catalogue of the files on your Start of Day disc. One thing you will notice is that your Phrases file is marked with a + (plus sign). This denotes a file created in PROGram mode.

OF BOOTS AND EXECUTIONS

If you want your Phrases to be automatically loaded across to the memory drive and EXECuted at the start of each computing session, you will have to call up STARTUP and add PHRASES (or whatever you have decided to name your Phrases file) to the list of programs transferred between drive A and drive M during the startup procedure. To do this, simply add a new line between the one containing the last transfer

command and the one containing the command, EXEC EXFILE. Into this new line, type: ECOPY A:PHRASES M.

After saving the new STARTUP file, Load EXFILE, press Exit to enter edit mode and, immediately after the existing codes add EXEC PHRASES|13|. In this case, you will have to use the vertical bar (obtained by pressing Alt-. [full stop] as an escape character, rather than the vertical arrow. EXFILE will then read, |252| |252|EXEC PHRASES|13| and will have the effect of loading your stored phrases into the buffer at the start of each day. The stored phrases will be listed in the bottom half of the screen.

If, at some stage during an edit session, you want to call up a phrase, but like me, have a memory like a politician after election day, simply go back into command mode, type M <Return> after the prompt, then press Extra-Enter. The phrases will again be listed on the screen. Once you have jogged your memory re-call drive A, then re-enter edit mode., A close look at figure 4 will show that I have added a short comment line after each phrase-string. I have also taken a screen dump of the phrase file to save my having to change drives in mid-session (see figure 4).

```
PROTEXT Document phrase          13K  Justify Off          Word-Wrap   Alt-H for Help
Page 8  Line 17  Col 1                No markers set                        Insert
but, like me, have a memory like a politician after election day,  simply
go back into command mode, type M,<Return> after the prompt, then press
Extra-Enter. The phrases will again be listed on the screen. Once you have
jogged your memory, re-call drive A, then re-enter edit mode. A close look
as figure 4 will show that I have added a short comment line after each
phrase-string. I have also taken a screen dump of the phrase file to save
my having to change drives in mid-session (see figure 4).↵
→  Should you wish to add more phrases to your permanent file, all you
need do is insert your Start of Day disc into drive A, load your Phrases
file and make the necessary additions. If you find that you don't use one
or more of the saved phrases as often as you thought you might, simply
delete the whole line or delete everything between the inverted commas. Two
sets of inverted commas ("") denote a nul string; meaning that that
particular letter is reserved for some future definition.↵
 PROTEXT v2.02 (C) Arnor 1986      Writing to M                    Printer: PCW
a)exec phrases
a)KEY A "Attachment:"                                  ; ATTACHMENT
a)KEY C "Yours faithfully,†13††13††13††32†John H Barlow.†13†"; CLOSING salutation
a)KEY D "†14††32††24††108††14††45††24††108††14††32†"    ; non-break space, long DASH,
  space
a)KEY E "†13††9††9††9††9††24††98†ENDS†24††98††13†"      ; ENDS
a)KEY F "FT††13†"                                      ; Alt-f1/2, FORMAT text file
a)KEY H "†14††45†"                                     ; non-break HYPHEN
a)KEY M "†13††9††9††9††9††24††98†mf:†24††98††13†)PA†13††13†" ; MORE FOLLOWS, return, page
  break
a)KEY O "Dear Sir,†13††13††9†"                         ; OPENING salutation
a)KEY P ")PA†13†"                                      ; PAGE BREAK
a)KEY S "†14††32†"                                     ; non-break SPACE
a)
```

Figure 4.

Should you wish to add more phrases to your permanent file, all you need do is insert your Start of Day disc into drive A, load your Phrases file and make the necessary additions. If you find that you don't use one or more of the saved phrases as often as you thought you might, simply delete the whole line or delete everything between the inverted commas. Two sets of inverted commas ("") denote a nul string; meaning that particular letter is reserved for some future definition. ■

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MISSED OUT?

Issue 50 contained an index for issues 37 to 48, while issue 39 contained the index for issues 1 to 36. The index in this issue brings you up to date.

If you use *Mini Office* or *LocoFile*, here's what you've been missing:

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Unfortunately, there were a few things it couldn't do. In particular, it couldn't load either *Mini Office Professional* or *LocoFile*. Serious shortcomings indeed.

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CONDITIONS OF ENTRY:

1. Entries may be on any subject, written by an individual or as a team effort but must not exceed 100 lines (REMs and comment lines not included).

2. Competition closes at 5pm, Friday 30th March, 1990. All entries received after this date will be excluded. The winner will be announced in Issue 64, May 1990.

3. Among other things, the entries will be judged on originality, and the judges' decision is final. Apart from documentation accompanying the entry, no correspondence will be accepted.

4. All entries must be submitted on disc or tape, including full

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documentation and operating instructions to *Programming Competition, The Amstrad User, 641 High Street Road, Mount Waverley Vic. 3149.* Entries will be returned if accompanied by a suitable stamped and self-addressed padded envelope.

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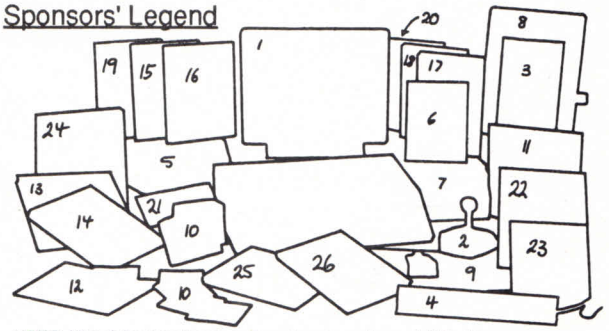

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Computer Viruses part 3

In our final Virus article, Ralph Burger provides some vital safety tips proving that prevention is better than cure.

Ever since alterations in data processing systems were first used to obtain personal gain, programmers and authorities have tried to prevent them. Virus programs create entirely new problems.

Basically, the virus protection concepts can be divided into two groups:

1. Preventing manipulations
   a) Through software
   b) Through hardware
   c) Hardware and software combined
2. Recognizing manipulations
   a) Through software
   b) Through hardware
   c) Hardware and software combined

Most of the solutions found on the market today are limited to software access controls, which are supposed to prevent access to programs and data. As we look at the different concepts, we'll put emphasis on the area of personal computers.

VIRUS-PROOF SYSTEMS

Most of virus protection concepts are aimed to protect the operating system level. On this level there are only protection functions which belong to the first group, which try to prevent data and programs from being modified. Limited access to data and program files are used for this purpose, which build more or less secure barriers against reading and writing data. Checking to make sure that data and programs are in order is generally handled quite poorly.

For example under MS-DOS, if you were to try to check whether a backup copy of a 20Mb hard disc matched the actual contents, you would have to have a second hard disc in order to make the test effective. The backup copy could be placed on the second hard disc with RESTORE and both hard discs would be compared with COMP. But this requires the presence of a second hard disc, and that this hard disc be large enough to store the files created by RESTORE, a configuration that you would not be likely to find in practice.

Even the comparison of the original discs with the programs installed on a hard disc is practical only when there are only a few programs, and short programs at that. Since many programs today take up several megabytes, partly as a result of programming in high-level languages, a comparison with COMP can take several hours.

Operating systems other than MS-DOS aren't any more user-friendly. The only way to make the process easier is to use tape or other mass storage devices for backup.

Since data and program comparisons on the operating system level take so much time, the protection concepts on the market generally concentrate on preventing manipulations.

SELF-MUTILATION PROTECTION

This rather strange sounding title says roughly the same thing as the following statement:

"The only sure way to prevent migraines is to cut off your head."

On a computer, this means that turning it off and leaving it off guarantees 100% protection against viruses. By contrast, an open system with no protection mechanisms offers no protection at all against viruses. It is our job to find some middle ground between these two extremes. There can be no universal solution in this regard because every user has different requirements.

VIRUS HUNTER PROGRAMS

Is it possible to write programs which discover viruses before they can spread and reveal them or render them harmless?

The basic functions of a virus include write permission, read permission, and the ability to detect programs. You could say that all programs which contain these functions are potential viruses. But give a little thought to the manner, and you come to the conclusion that these functions are found in almost every program. The proper combination of these functions is still required. If you go a step further and try to include these combinations as well, then programs which read, modify, and write program codes

are potential viruses. Here we can draw the circle somewhat tighter because the number of programs which modify other programs is rather small. It looks like we can define actual viruses in this manner. The technique of self-modifying programs that can be nested arbitrarily deep when the self-modified code generates more self modifying code, make this procedure worthless.

It makes no sense to scan the program code because the virus just has to go one level of self modification deeper than the test program does. It's possible to check the program by interpreting it and executing the code with an interpretative tester, because then all of the levels of self-modification are executed. The big disadvantage of interpretative testing is the large amount of time required. An example would be to run a 40K machine language program in the trace mode of a debugger. Also, it is entirely possible that the virulent program code is not executed at all because it recognized the tester or because certain environmental conditions were not fulfilled - date, time, password etc.

A good example is the copy-protection system Prolok. Programs protected with Prolok are encrypted on the disc. The decrypting is performed block by block after loading. To prevent this principle from being discovered, a number of precautions are taken, including making single-stepping difficult by redirecting interrupts. If anyone tries to run the decrypting routine in single-step mode, the computer crashes. Those making past this hurdle discover that the decryption routine is first decrypted by another decryption routine etc.

VIRUS MARKERS

We can give up the hope of detecting viruses before they become active. There is a relatively good chance that we can recognize the virus marker, however. If it is a simple string, then the entire mass storage can be searched for this string. All programs which contain this string must then be classified as infected. It is more difficult if the marker consists of different characters. For example, X is a virus if the sum of the first ten bytes is 99. This marker cannot be detected by normal search programs. In such a case a special search program must be developed which reads the first ten bytes of each program, generates the sum, and lets the user know if the sum is 99.

Instead of searching for the marker, you can search for particular characteristics of the virus. Few virus programmers place copyrights in their viruses, but if a certain combination of machine language instructions is recognized as the kernel of the virus, then a search can be conducted for this. This works only for viruses which do not continually modify themselves.

Discovering virus programs with search routines is extremely difficult. General virus detection programs are difficult to write. The search program must be adapted to the characteristics of the virus, which requires knowledge of the virus structure. Since self-modification is nested in viruses just as search strategies in search programs, we can expect a war between virus programmers and developers of detection programs similar to that between copy-protection developers and crackers. A war which no one will win.

CHANGE CONTROL CHECKER

A Change Control Checker program (CCC) checks for changes in programs and data. It fights viruses based on the property that is common to all virus programs: change. The program searches for changes!

With a Change Control Checker (CCC), an old concept for protection against the consequences of viruses and loss of data is realised in a completely new form.

The CCC performs the following functions:

- Check for changes in programs or data files
- Check for new programs or data files
- Check for deleted or replaced programs or data files.

In order to be able to use these functions, it is necessary to apply CCC to all programs and data which cannot be allowed to be manipulated. The following criteria are recorded for each file in MS-DOS:

1. Date stamping
2. Time stamping
3. File Length
4. File Attributes

During the check, the program tests to see if the state of the mass storage has changed. This check comprises, depending on the menu selection, the entire program and data area relevant for MS-DOS. This also applies to recognising defective sectors within a file. In order to make the check as user-friendly as possible,

it can also be placed in a batch file so that the user doesn't have to enter anything. All modifications which are discovered are recorded in an editable and printable LOG file. The program is written entirely in assembly language and, by avoiding any screen control characters, is compatible with any MS-DOS computer.

Depending on the level of security required, the user can select between a short or a comprehensive test. The check algorithm used works with self modifying tables with which a 128 bit checksum is generated for each program.

WHAT TO DO WHEN INFECTED?

It is impossible to give a general answer to this question. Ignoring the fact that it's very difficult to recognise the start of an infection, the procedure depends very much on the importance of the installation, the programs and the data. In extreme cases, even the suspicion of a virus attack requires that the system be shut down and all data and programs be destroyed.

Since the majority of our readers are probably not owners of systems with such explosive data, we will not explore these extreme cases any further. We would like to make some suggestions which are intended to help the reader keep the risk of further spread to a minimum. It is up to the user to judge the importance of the system and its data to decide when the following measures must be taken because of a suspected virus.

Twelve steps which can prevent more damage:

1. Turn the system off. This prevents any spread of the virus. Memory-resident viruses are also removed.
2. Disconnect all data transfer lines. Only peripheral devices absolutely necessary for the operating of the computer should remain connected. This will prevent infections from propagating further beyond the computer as well as viruses entering the computer from the outside.
3. Write-protect media as far as possible. This means covering the write-protect notch on diskettes. Large drives (e.g.Control Data) and magnetic tapes generally have write-protect switches.
4. Use the ORIGINAL VERSION of the operating system to reboot the system. This means the original (generally write-protected) diskette or disk pack from the manufacturer. A virus may have crept onto the backup copies.
5. Save data and programs on new media and seal them to prevent accidental use. These programs and data can be used to support damage claims, since they can provide clues as to the perpetrator. They can also prove very useful if the backup copies have been destroyed by viruses or other causes.
6. Format all old media. Remove the write protection and reformat all media. Any viruses residing on the media are destroyed by the formatting process.
7. Use original versions of the software for restoration. You can assume that the original versions, which are generally write protected, are free of viruses.
8. Check data for consistency. Backup copies of data must be checked to ensure that no manipulations have been performed. (There is no danger from data,they can only be changed).
9. When proper order has been restored, transfer data to the system. If you are sure that the data has not been manipulated, they can be used without problems.
10. If consistency cannot be guaranteed, the last databackup in which consistency can be guaranteed can be used for restoration. This means that very old data backups must be used.
11. Send the sealed program discs to a research institution which works with computer viruses in order to verify the virus suspicion. Addresses of such institutions are available from the author. Other users can be warned of this virus if it is studied.
12. Install diagnostic or security software and check the system as carefully as possible. Note: if you notice any unusual change in the behavior of the system, send this information to the appropriate research institutions.

Of course these steps don't offer complete security, but the risk of further spread can be greatly decreased.

CONCLUSION

The subject of computer viruses is a controversial one. And it's also a commonly misunderstood one.

We hope that this short guide has improved your understanding of computer viruses. For more information on the subject you may want to read one or more of the books in the Bibliography. ■

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Roberts, Ralph, Computer Viruses, Chilton Book Co., 170pp, 1988. ISBN: unknown.

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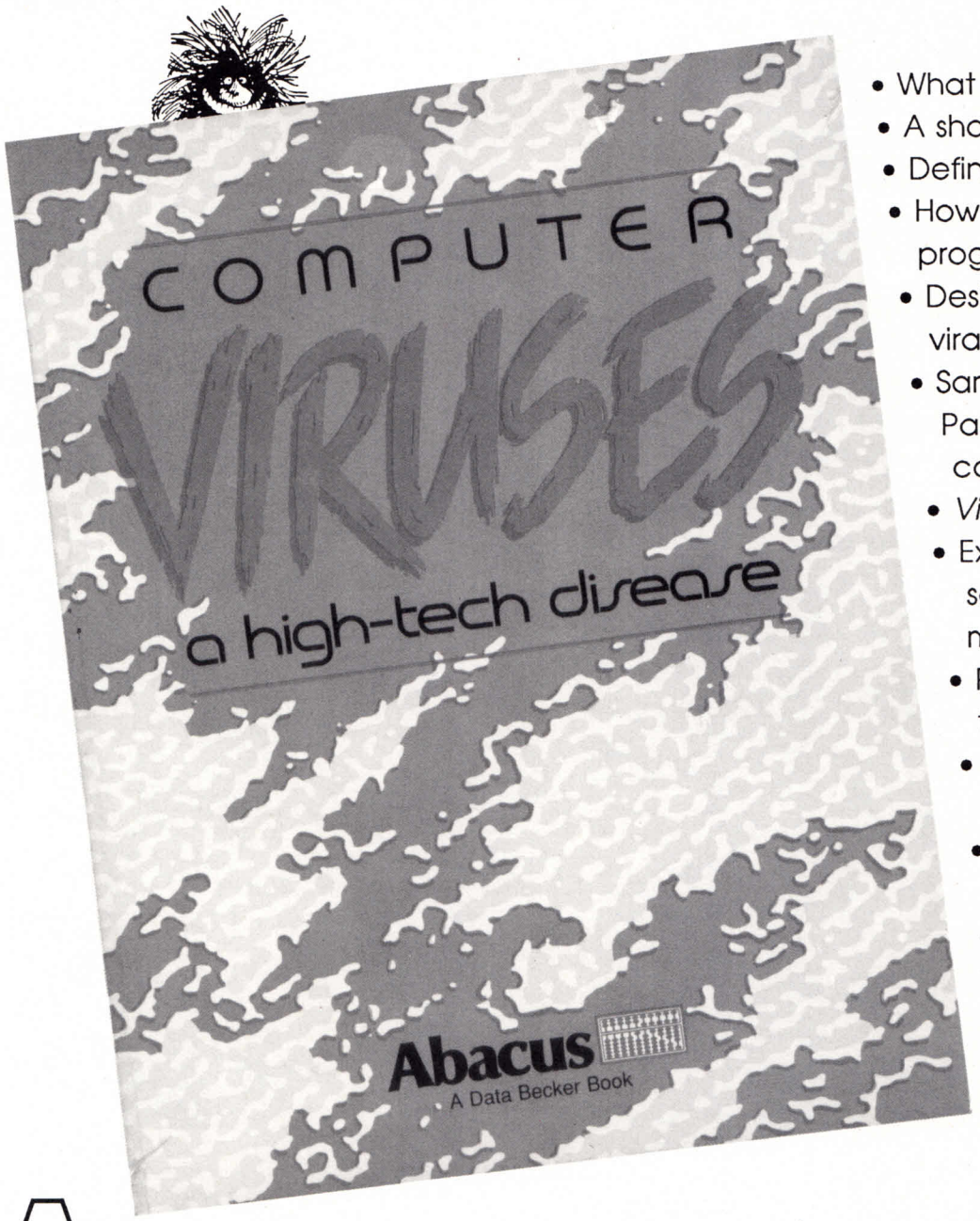

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- Definition of a *virus*
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A GEM accessory which displays the pixel co-ordinates of the pointer. It is called from the application name menu by clicking on the 'Pointer-Pos' option.

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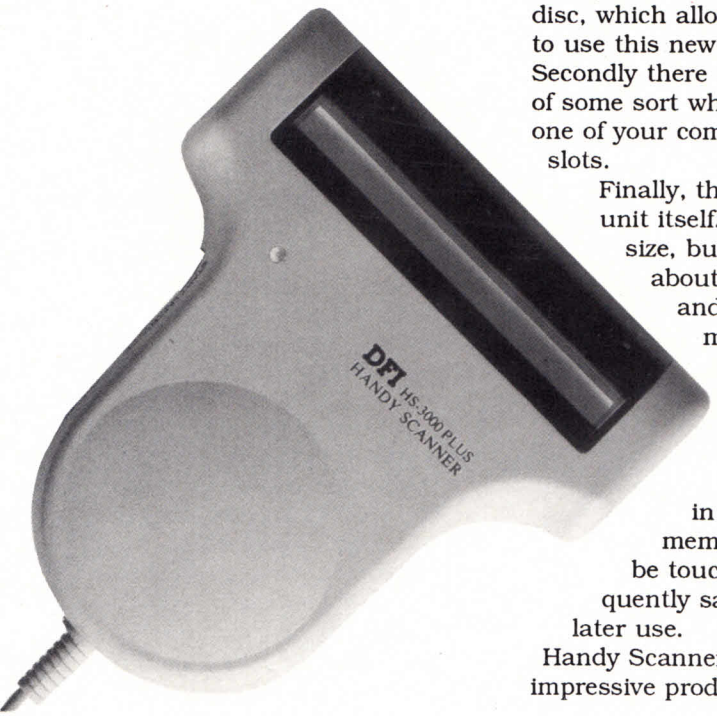
Handy way of Scanning

Mike Turner looks at the latest HS 3000+ Handy Scanner from DFI, together with its bundled Paintbrush package.

Computer graphics is an exciting area, and one that is be coming more easily accessible to the home user. Several very good art packages are available for IBM compatible machines. One such package is PC Paintbrush Plus.

This software alone would be worthy of being on most computer buff's shopping lists. But, when it comes bundled with a Hand Scanner (digitiser) the resulting possibilities are only limited by the individual's imagination. If you're into computer graphics or publishing applications, read on.

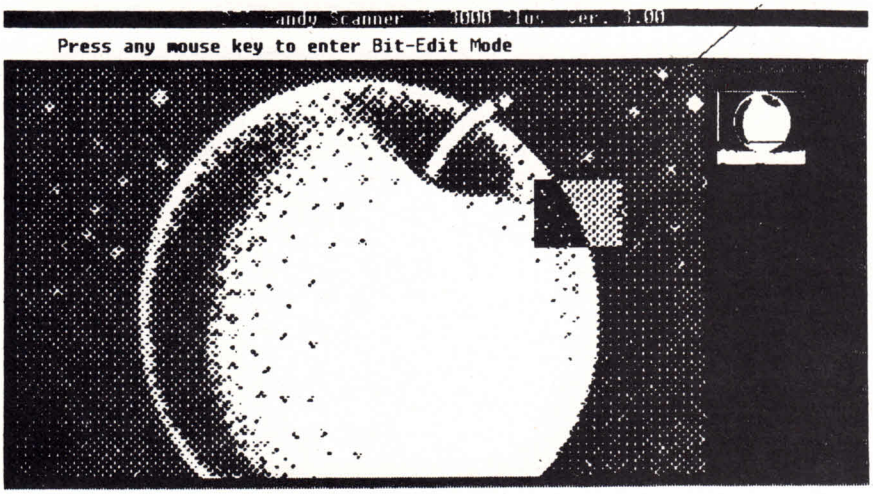


You may find this product is just what you have been looking for. DFI have been producing hand scanners for IBM machines for some time. But it hasn't really been until recently that their popularity has increased. I can remember as recently as a year ago that scanners were considered by a lot of people to be a bit of a curiosity piece. With the upsurge of interest in Desktop Publishing, scanners have started to take off with home users. So, what is a scanner? For the benefit of the uninitiated, a hand scanner consists of three main elements. Firstly the software supplied on disc, which allows your computer to use this new peripheral device. Secondly there is an adapter card of some sort which will reside in one of your computer's expansion slots.

Finally, there is the scanner unit itself. These vary in size, but are typically about 3 1/2 inches wide and are meant to be moved by hand over a photograph or the like. In so doing they store a copy of the image concerned in the computer's memory. This can then be touched up and subsequently saved to a disc for later use. The HS 3000+ Handy Scanner from DFI is an impressive product. It comes neatly packaged in a show box sized container. The basic unit reviewed contained the scanner unit itself, a half width adapter board, operating software, PC Paintbrush Plus software and two manuals. The supplied software also includes support for various programming languages and other applications software like dBASE. This allows the technically minded to utilise the scanner from within programs that they write themselves. Very handy! Optional Optical Character Recognition (OCR) software is also available. The user may then scan text from other publications into a word processor or desktop publishing program. This can be a real time saver depending on how much copy typing you have to do at home or the office. Installation is a breeze. The scanner manual guides you step by step through the process. For newcomers some of the jargon can appear a bit daunting, but don't let it worry you. The manual does explain things fairly well and there are good technical descriptions in the annexes at the back. The board simply slips into one of the available expansion slots in your computer. Once fitted, the software can be loaded up and away you go. I have used scanners before, but had never had to install one from scratch. The whole operation took some 15 minutes from go to whoa and I was pleasantly surprised by the

ease of it all.

Once up and running, the manual then takes you through a simple tutorial on how to use the thing. The scanner itself is a rather stylish looking unit as scanners go. The first thing that struck me was the size. It was far larger than I was expecting based on my use of an earlier HS 2000 model. The scanner head itself is just over 4" wide and is equipped with four rollers underneath, to assist the operator in making smooth scans. There is plenty of cable so that you won't end up shackled to the computer. A nice touch is the full width viewing window which allows you to see what it is that you are scanning and assists you in keeping things lined up straight.



Editing Screen.

Controls are few and easy to operate. A thumbwheel control looks after the darkness of the scanned image and like earlier models has a sensible marking to show the mid-way setting. Then there is a resolution switch which allows you to scan pictures with varying degrees of clarity. There are four settings of 100, 200, 300 and 400 DPI (Dots Per Inch). The last control is one that looks after things called dither settings. Most printers and computer screens for that matter are incapable of producing true shades of grey. Instead they fool the human eye by using combinations of black and white dots to produce the appropriate shading. There are four dither settings available on this scanner. They cater for everything from high contrast black and white text to colour photographs.

However, having said that, let me also say that the best scanner in the world will produce lousy results if the operator doesn't take the time to get all the settings rights. It really is a matter of suck it and see to get the right amount of contrast and the correct DPI and dither settings. However, patience is a virtue and the time taken to achieve the most eye pleasing result will be well worth the effort later on. This is especially true when you consider that you can save the image to disc and re-use it in other programs later at your leisure.

Scanning a photograph or a cartoon or whatever is a simple matter. One or two keystrokes and the scanner springs into action. The menu selections in the software are good and easy to understand. Once a couple of trial runs have been done to get the settings right, you are ready to scan your masterpiece. You select the scan option and are asked if you wish to clear the scanner's buffer. Answering yes will produce another message on the screen telling you to press the start button to commence the scan. Now it is a simple matter of positioning the scanner at the top of the artwork to be digitised, pressing the start button and holding it in whilst slowly moving the scanner downwards until you have covered the desired area. The image being scanned appears on the computer screen as you move the scanning head. A green LED illuminates during this process and lets you know if all is going well. If you move the scanner a little too fast, the light will start to flash. Moving faster again will cause it to go out completely. The aim of the game is to make your movements slow and smooth. You may stop the scan at any time by releasing the start button. The scan will also stop itself once you have exceeded the buffer capacity for the resolution you have chosen.

Once the scan is complete pressing the space bar will take you into view mode. This is where wonderful things start to happen. You may use either your mouse, or the cursor arrow keys to move around the picture; as only a portion of which is shown in the viewport at any one time. You may then go into BIT EDIT mode to touch up your scanned image. What this does is effectively zoom in on a portion of the picture and allow you to edit it pixel by pixel. The process is an easy if tedious one. A simpler way is to use another graphics package such as the supplied PC Paintbrush to do a lot of the touching up with its more sophisticated functions. But more of that in a moment.

The next step in the process is to crop the image, so that you save only that portion that you wish to retain. There are two CUT options available. One looks after the bottom right hand corner of the picture and the other, the top left one. Movement of these cutting lines can again be done either with the cursor arrows or the mouse. The TAB key toggles the speed with which these lines move across the screen from slow to fast and back again.

Saving your files is just as simple. Select the files option from the main menu and you are then

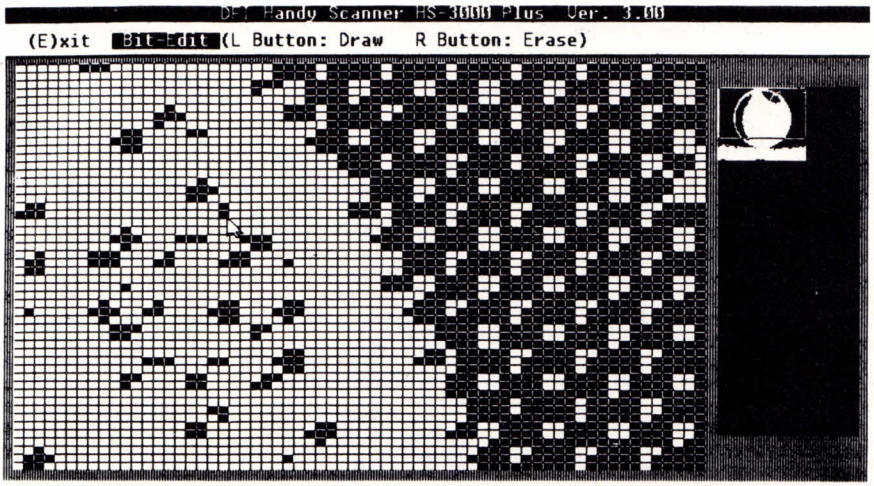
presented with a variety of formats into which you may save your picture. The formats and their file extensions are MS Windows (.MSP),GEM (.IMG), DR HALO (.CUT), PC Paintbrush+ (.PCX), and TIFF Pagemaker (.TIF). Then input the file name of up to eight characters in accordance with DOS file naming conventions. There is no need to add a suffix as this is done automatically by the software depending on the format chosen.

So, we've scanned our pictures, what do we do with them now? Well, it really is only limited by your imagination. You can import them directly into a desktop publisher program like Ventura, Pagemaker or Finesse. Or you can import them into an art program like PC Paintbrush, colour them up and print them out. Or you can use them in other programs you write yourself. As the scanner is only 4" wide there may be a need to scan some items sideways to fit them in. Sensibly you are given the option to save the file normally or rotated through 90 degrees. This rotation process takes a little longer due to all the calculations involved.

PC PAINTBRUSH PLUS

Bundled with the DFI scanner is Z-Soft's PC PAINTBRUSH PLUS, which is billed as a graphics design studio on a disc. This is no idle boast. This particular package is one of the best artwork packages I have ever used. The ease with which really stunning drawings can be created by novice users is a big plus. The software came supplied on four 5 1/4" discs although it is also available on two 3 1/2" discs. Whilst it can be run from floppies quite successfully, like a lot of other software these days, it runs best on a hard disc drive.

Installation is easy with the supplied SETUPPB.EXE and PCINSTAL.EXE programs doing all the hard work for you. All you have to do is answer the various questions posed and La Voila it is done. The accompanying manual is very well laid out and easy to use. A tutorial in one of the early sections of the manual takes you through all the basics and has you drawing your first picture in no time. The people at Z-SOFT are to be commended for producing a product of this standard which is at the same time extremely easy to use. I purposely let a friend of mine loose on Paintbrush without the aid of the manual to see what would happen. With a little bit of trial and error and some prompts from me, he was producing some really amazing pictures in a matter of minutes. It is just the thing to keep artistic children amused for hours on a rainy Saturday afternoon.



Grid Screen.

The version supplied for review was 1.64. Existing users of earlier versions of PC PAINTBRUSH will note some substantial improvements in the PAINTBRUSH PLUS update. The changes are too numerous to mention in detail, but some of the major ones are as follows:

1. New installation procedures to conserve disc space.

2. Advanced usage of grayscales for both file handling and display support.

3. Direct use of EMS memory.

4. Support for many new display adapters including large displays.

5. Support for 256 colour displays.

6. Optional removal of the FRIEZE utility form memory on exiting the program.

7. Support for several new printers with improved printing speed.

All in all I found this to be a well produced, easy to use and extremely versatile package. When teamed with a scanner like the HS3000+ you have a formidable graphics preparation system at your disposal. Scanned images may be read into the program provided that they are saved in the appropriate .PCX format. Alternately, you may scan artwork from within the Paintbrush program. I found this to be a bit tedious and not worth the effort due to some problems encountered which I will cover in a moment.

Those regular readers of this magazine who are familiar with the way I write my reviews, will realise that I don't mince words. I call a spade a "bloody shovel" and try to present an honest appraisal exposing faults as well as good points in any software or hardware thrown my way. Well this review is no exception. Luckily the faults I found with this package are few and mainly associated with interfacing Paintbrush with other programs already happily

residing on my hard disc.

I suppose it is unrealistic to expect software manufacturers to work together to ensure compatibility between their programs. Still, I do find this area a bit annoying. Too many vendors seem to assume that you bought your computer solely for the purpose of running their particular piece of software. There are lots of programs out there that are very memory and/or disc space intensive. Classic examples are Harvard Graphics and Ventura publisher; both of which do not like running with memory resident programs like Borland's Sidekick. These TSR (Terminate and Stay Resident) programs can cause real headaches.

400 DPI mode.

Herein lies a problem with PC Paintbrush plus. It contains a utility called FRIEZE which allows you to capture screens from other programs and save them to disc for later use. The FRIEZE utility successfully mucked up some programs on a 640K computer like the PC2086 or PC1640; and they simply refused to run.

300 DPI mode.

Solution - buy a bigger computer.... Well, not so professor. I then ran the same programs on a PC2286 with 1mb of RAM. "Surely there won't be any conflict now?" I thought. Wrong again. The offending programs refused to run. Why? The only answer that I can come up with is that some programs will not work with any form of extended or expanded memory and are designed to run in the standard 640K of DOS RAM. Others, whilst they recognise that you have the extra memory available, use it only for scratch files and the like. They cling tenaciously to their position within the normal 640K RAM limit and this is where the conflicts occur.

So what are some solutions? The most obvious is prudent system set-up. If none of the programs you are intending to run are interfered with by FRIEZE then go ahead and let it be kept in the memory on exiting from Paintbrush. If you do run into conflicts, you must choose between having PC Paintbrush remove FRIEZE from the memory automatically on exiting, or reset your computer prior to running one of the conflicting programs. On the plus side the new ability to remove FRIEZE from memory on exiting does make life easier in these situations.

It really depends on what sort of other software you run and whether or not you need or are required to retain FRIEZE in the memory on exiting PC Paintbrush Plus. A friend of mine is using COMSOFT's genealogy program ROOTS III. One of its claims to fame is the ability to display scanned images in PC Paintbrush format whilst within the ROOTS program itself. The manual states that coats of arms, certificates and the like can be displayed within ROOTS by use of the FRIEZE utility. Mind you having made that statement, simple instructions on how to achieve this seem to be scarce or non-existent. Suffice to say after a lot of fiddling I managed to get this facility to work as advertised. But that's another story.

The only other complaint I have concerns the use of the scanner from within Paintbrush Plus. The name of the appropriate scanner driver must be included in the CONFIG.SYS file so that it is recognised on booting up the computer. This caused another source of conflicts on one of my machines when I tried to run other programs. Not so polite little messages appeared on the screen telling me to check my CONFIG.SYS file and remove any unwanted drivers before I could run the other offending program. The other gripe is that scanning within Paintbrush is slow and you can't see what you are scanning instantaneously on the screen as is the case with the supplied scanning software from DFI.

So, having got all that off my chest, what's the verdict? Even with the few little annoyances mentioned above, it's still a resounding success in my book. I will be sad to hand this piece of equipment back. I would have liked to try out the optional OCR software, but unfortunately this wasn't available at the time. The hardware and software as supplied worked as advertised and offers very good value for money. The whole package retails for around $495, although I have seen prices as low as $399 quoted; so it may pay to shop around. I believe the optional OCR software sells for somewhere around $75 to $100. If you are looking for a useful and worthwhile addition to your computer system you won't go far wrong with this package. Many thanks to Dragon Technology of Moorabbin for supplying the review equipment. ■

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In the domain

Chris Collins provides us with some very useful anti - virus hacks as well as some software for jigsaw fans.

This month's column comes to you from a new home, and also with a new direction. As of now, I have officially moved home and am now resident somewhere else from where I was. It all seems rather confusing really! For those of you that missed it last month, the new address for your diskette orders are as follows:

MacroDisk
Unit 2, 47 Vernon Street,
South Kingsville Vic 3015

Don't worry about missing out though if you have sent your letters to the old address, some of the mail is being re-directed by Australia Post and my nice next door neighbour is collecting most of it for me. It simply means that it might take a little longer for you to get your diskettes. Please be patient until things sort themselves out.

Now, onto the direction of the column. As most of you will have been noticing, I have slowly been phasing out the DOS command that we have been looking at each month. There is a very good reason for this. When Compatibles Corner was first started, I was basically the only 'EXPERT' that 'The Amstrad User' could get on DOS. The reasons are quite simple really, I had owned a DOS machine for over 12 months at the time of the release of the PC1512, and I had previously written for 'The Amstrad User' so I was elected. Now that you all are becoming more familiar with DOS, and a lot more people are supplying articles on DOS for 'The Amstrad User', I feel that it is almost redundant for me to keep teaching you about DOS commands.

I would like to start to push the column more towards a monthly article on shareware and public domain software, with special articles of interest as they may arise (similar to the recent one on archiving). With the great abundance on quality shareware and PD software that is being released and updated all the time, I feel that this may be a better way to progress.

What are your thoughts on this change? After all, it is a column for you readers. Do you want me to keep explaining the DOS commands (although we are fast running out of DOS 3.2 commands, and there are only about 5 extras for DOS 3.3), or would you prefer that we head off on a tangent and start exploring the shareware and PD world a lot more? It will take a couple of months to get some feedback, but we will start heading that way, and see what the response is!

Let's get on with this month's new releases!

VACCINE 1, 2 AND 3

With recent articles in 'The Amstrad User' about viruses, and the recent hysteria in general regarding these vandalizing programs, I have managed to combine all of the vaccine style programs that I have been able to find onto a set of three diskettes. The programs on these diskettes include virus detectors and killing utilities and vaccine programs. I will explain the differences in a minute, but first a little grandstanding.

Viruses are nasty! Let us not be mistaken about that. BUT they are not as prevalent as some people would have you believe. I upload, download and collect an awful lot of software from various sources around the world, and I have yet to be struck by a virus (TOUCH WOOD!). That is simply because I keep a few simple things in mind. These are as follows:

1. Always run a scanning utility approximately once a week (although I usually miss and only do it about every fourteen days.

2. Always know where your software is coming from, whether Bulletin Board, software distributor (MacroDisk) or a friend.

3. Always check any new software! Remember your friend may be infected and not know it!

4. ALWAYS HAVE CURRENT BACK-UPS OF YOUR HARD DISC! Invariably, viruses attack hard disc, so if one does get through your network of protection, you

will need a current back-up to restore.

5. Always run a scan utility before doing a back-up. This will make sure that you don't back up a virus.

As I said, viruses are nasty things, and the people that created them are nothing more than vandals! These people are out to get your data, (I don't know why) so protect yourself from them and their EVIL toys!

Now that I have done my bit of grandstanding, let's get on and explain the difference between the various types of vaccine programs. Basically, they are divided into three groups and can be explained as listed below:

1. VIRUS DETECTORS - These are the scanning utilities that I have been mentioning above. All viruses leave behind a trade-mark on any program that they infect, and this style of program goes through your hard disc checking all the necessary files for this trade-mark. The best of these programs is McAfee's SCAN utility. Currently, this program is at version 52 and checks your RAM memory and your hard disc files for 54 viruses.

2. VIRUS KILLERS - These programs go through after a scanning utility, and actually kill the virus on the infected program. Again McAfee leads the field in these programs with a suite of virus killers.

3. VACCINE UTILITIES - These are a different style of program. Most of these are memory resident utilities that watch over your hard disc files, and warn you if they feel that a program is about to do something it shouldn't. There are a few different programs of this type available including NBY (Not Born Yesterday, an Australian program), but again McAfee is represented with SCANRES. This is a memory resident version of SCAN.

With that bit of knowledge on vaccine programs, I will get on with describing the three disc VACCINE PROTECTION set!

DISKETTE 1 OF 3

On diskette 1, we have only 2 ZIP files. The first of these is called CITVIRUS.ZIP. This is a collection of programs from the Chisholm Institute of Technology seminars on Viruses. It also contains all of the course notes. The second file on the diskette is VIRUS.ZIP. This is another collection of utilities, that includes a couple of virus killers as well as scanning utilities.

DISKETTE 2 OF 3

Diskette 2 includes the pair of programs from McAfee that I spoke about earlier. SCANV51 and SCANRS51 are version 5.1 of both the normal SCAN utility, and its memory resident cousin SCANRES. Both of these utilities, with the associated killer programs could be all you will ever need, but it always pays to be careful!

Also on this disc is NBY106. This is the Australian utility NOT BORN YESTERDAY. An excellent memory resident Trojan protector. NOHARD is a simple little utility that will disable your hard disc until the next reboot. This is great for when you are testing software. PCANT29A is the PC-DOS version of AntiVirus 29A. The MS-DOS version is on diskette 3. This is another vaccine program. There are another six ZIP files on this diskette, and they include 4 scanning utilities, 1 vaccine program and 1 virus killer.

DISKETTE 3 OF 3

This is the diskette with the most files, because it includes all of the McAfee virus killers. There are 24 ZIP files on this diskette, and of those 9 are virus killers, a couple are vaccine programs and the rest are scanning utilities. Some of the programs on this diskette are listed below:

1. Finding Utilities: - BOMBSQAD, CHK4BOMB, CHKCMD, DPROTECT, FIND1701, HDSENTRY, MSANT29A, PKSFAN11, PROTHD, VACCINE, VIRUSCHK and VIRUSDOC.

2. Killing Utilities: - M-1704, M 3066, M-BOOT, M-DAV, M-JRUSLM, M-VIENNA and MDAD112.

As you can see, all three diskettes have something to offer. The only problem is, all of these utilities basically go off and do their own thing without any intervention from you. However, if you want to have some sort of control, do we have the program for you. On diskette 3 is a ZIP file called FSP17. This is Flushot+, probably the best and most powerful of the scanning/vaccine type of programs. It allows you to tell it which programs you want checked, and much much more. This is one excellent utility.

Now that we have got those bad vibes out of our system, let us get on with something more exciting and interesting. The response to the recent Printmaster+ and Printshop graphics library diskettes has been phenomenal. I was overwhelmed by the response, as I had all but figured that most people wouldn't be using these programs but would be using programs like First Publisher to do the same job. But when you stop and think about it, Printmaster+ and Printshop do some jobs that no other style of program can do. They can make stationery, cards posters and much more.

So with a bit of searching, I have been able to find both Printmaster+ and Printshop users two more diskettes of graphic libraries. Both pairs of diskettes are identical, so I will only explain the Printmaster+ set of diskettes. The Printshop diskettes are the same, except that they work with Printshop.

PRINTMASTER+ LIBRARY#3

This diskette has four graphics libraries on it, with over 400 graphics in all. The graphics libraries are listed over the page:

MASTERFILE PC *VERSION 3*

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

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

MASTERFILE-DB

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

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

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

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

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

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

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

MASTERFILE-WP

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

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

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

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

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

HELP AND LEARN

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

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

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

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

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

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

The Amstrad User
1/641 High Street Road
Mount Waverley 3149
Phone **(03) 233 9661**

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

GRCG01:- A graphic to represent each state of the USA, and a collection of frames, as in picture frames.

GRCGO2:- 100 various 2 and 3 word quips or cliches, with a graphic to match each and every one.

GRCGO3:- 63 religious quotations. Some have a graphic, some are just quotations. As well, a collection of DANGER, NOTICE and CAUTION signs.

SPORTSLIB:- A collection of 104 various sports oriented graphics including football, cheer leaders and much much more.

PRINTMASTER+ LIBRARY #4

This diskette has only 3 graphics libraries on it. The GRCG graphics libraries all come from one source in the USA, and this is the second diskette in their collection. The graphics are listed below:

GRCG04:- 100 various signs such as NO SMOKING, NO BULL, STATIC KILLS and many others. Some quite funny ones in this lot.

GRCG05:- Faces! 100 male and female (in almost equal amounts) faces of different types, and with different expressions too!

GRCG06:- This is a varied collection and includes 64 symbols, 24 zodiac graphics (every sign has two choices), 3 religious and 9 other various graphics.

PRINTSHOP LIBRARY #3 AND PRINTSHOP LIBRARY #4

These diskettes are the same as the equivalent Printmaster+ diskettes, except that they work with Printshop.

MOSAIX

This is the last pair of diskettes that we will look at this month and it will suit all users of Amstrad machines from the lowliest PC1512 with its CGA screen to the latest PC2386 machine with its lovely high resolution VGA screen.

Mosaix is a jigsaw puzzle program. Whilst that is probably too much of a simplification of what Mosaix can do, it is the simplest way to describe it.

An electronic jigsaw puzzle, with an infinite number of pictures available. Mosaix will work with a CGA screen, an EGA screen or it really shines on a VGA screen.

To set Mosaix up is quite simple. Set-up a directory on your hard disc called Mosaix, and copy all the files from both diskettes to that directory. Mosaix will also work with one 720 floppy disc drive of 2 * 360k floppy disc drives.

Work out what type of screen you have. PC1512 owners will have CGA, whether in monochrome or colour, and PC1640 users can have the same. PC1640 owners can also have EGA with the ECD(Enhanced Colour Display). PC2000 owners will have VGA, again whether it is colour or not.

Now if you have VGA, go and play with Mosaix. It is already set-up for you. If you have an EGA screen, you will need to rename the EGAMGL.OLD file to EGA.MGL, and delete the VGA.MGL file. If you have a CGA screen, you will need to delete the VGA.MGL file, and rename the CGAMGL.OLD file to CGA.MGL. These are the graphics libraries that Mosaix uses, and they will need to be present for Mosaix to work.

Both of the VGA and the EGA libraries have three graphics in each, but the CGA doesn't have any. However, that is not a real problem as Mosaix will read PCX files and use them.

The VGA graphics library includes three 320*200*256 colour photographs, and is really quite excellent. This is the one that I had a lot of time playing with. It appears that the current version will only accept 320*200 VGA pictures, but I will be experimenting further with this and possibly releasing more VGA and EGA .PCX files for you to view. A limited number of formats (320*200*256 and 640*350*16) are supported by the current release of Mosaix, but more will be available with the registered version.

A mouse can be used to move the tiles in the picture, but if you wish you can use the keyboard. There are three levels available to play:-

Level 1 with 25 tiles,
Level 2 with 50 tiles, and
Level 3 with 100 tiles.

All tiles are either square or rectangular, but this appears to make it more difficult to finish the puzzle. At any time whilst solving the puzzle, pressing ALT-V will show you the picture for a few seconds. After you solve the puzzle, you will be told how many moves it took, and how long it took to solve.

This is an excellent package, but it really does require either EGA or VGA to work at its best. I will be releasing further picture diskettes in the future with full colour PCX files on them for you to use with Mosaix, so be on the look-out for those. Registration for Mosaix is US$45.00 and I believe that it is well worth it, especially if you are into jigsaws. Just think, an endless supply of jigsaws for US$45.00.

All of the above diskettes, and any others that have been mentioned in previous articles are available from the above address at the following charges:

360k 5.25" disk $7.50 each
720k 3.5" disk $15.00 each

Please remember that if you are ordering 720k diskettes to specify TWO (2) program diskettes. If you do, it will cost you $15 for the diskette. If you only specify one program diskette, it will still cost you $15.00.

Well, I think that is about all for this month. Be careful, be nice to people, but most of all HAVE FUN! Until next month, TTFN! (TaTa for NOW!) ■

Information Exchange

Some interesting information on a new help system for PC Amstrad users called the Amstrad Information Exchange.

There exists around Australia, literally hundreds of Bulletin Board Systems for computer users. However, most are run by the users themselves, some with special interests, but most are used for the downloading of shareware and Public Domain software.

A UNIQUE SERVICE

For Amstrad Users, there is now a system that caters just for them. It's called the Amstrad Information eXchange and is available 23 hours a day on 075-915945.

Designed with all Amstrad PC users in mind, including the Dealers, Service Centers and Amstrad, the prime idea is the sharing of information on their hardware, the software supplied by Amstrad and the problems facing dealers in a very competitive market.

For example:- Dealers have an area that is only accessible to them. Users can leave messages directed to their dealer, but they cannot read the messages exchanged between dealers. These are confidential, even from Amstrad. Service Centers can exchange information on the latest "fix" or "mod" and if they wish, they can make that Public by leaving the information in the User Mail Area. Users can leave messages in each others Private Mail Box, accessible only by the recipients. The messaging facilities are enormous!

MEMBERSHIP PRIVILEGES

The Amstrad Information eXchange is only for Amstrad Users and Membership is available by registering on the System by phone. For users without a Modem, they should contact their local Amstrad Dealer. Most Dealers are offering Membership incentives with the Amstrad MC2400 modem or PPC640D portable.

When Membership is obtained, the user will receive a set of discs complete with a listing of all 13000 programmes available at no cost, plus a complete listing of all Educational and Games software which can be purchased by leaving an order on the system.

Members can presently send and receive at 2400 baud. This will be upgraded to 9600 as soon as there is the demand. The system is being run on a PC2386 with one modem. This can be upgraded to up to 10 or more lines with speeds of up to 9600 baud when the demand is there.

So what does AIX offer? Basically a range of services like Electronic Mail, Forums, Support and masses of free software.

MAIL SERVICE

Let's look at the Mail Service first. As with other E-mail services, users can send messages to other users directly to their Mail Box. To do this, you go to the Mail Room and tell the system you want to send a message to someone. After entering your message, you just follow the instruction to have it directed to one or more persons. When you log on to the system, you are told if there is a new message for you, so you can respond immediately.

USER FORUMS

Then there are the User Forums. For example, every Amstrad PC2086 is supplied with Microsoft Works. A nice, easy to use programme. However, there are certain situations where most users require help. This is where the Forum is of great benefit. Users can leave a request for help in the Works Forum and another user will respond with the answer. Another may know of a different way in tackling the subject and will leave their response. This will develop into a full exchange of information and over a period, a common thread will develop. This 'thread' can be followed from beginning to end. In addition to this, any user can open a new topic in the General Area by giving a topic a Name. Then as others respond, a 'thread' will develop here also. All items forming part of a thread will be left on the system. However, messages of a personal nature should be "Killed" as soon as they have been responded to.

Other Forums available are for Word5, Excel, DOS,

Windows, Sage Accounting and Attache Accounting. And Users can move freely between Forums.

SUPPORT AND BACKUP

Then there is the Support. Many hardware vendors these days leave support off the computer when it leaves their premises. AIX is a support system. Users can make requests for support directly to their dealer, to Amstrad, or to Amsnet, the owners of AIX. Many small businesses these days are making more use of accounting packages like Attache and Sage. The operators at Amsnet are all experienced with these products. However, because the support is free, it may take up to a couple of days for answers. For urgent response, always contact your software dealer first.

FILE ACCESS

In addition to the Information eXchange, users also have access to around 13,000 programmes on the two CD-ROMS in the File Room.

Most come in "Zipped" format and require a programme called PKUNZIP to restore them to normal. Zip files take less transmission time and this saves the phone bill. For those more distant clients, programmes can be ordered by mail. In the File Room there are programmes located under different headings, like Word Processing, Spreadsheets, Games, Education, Database, Desktop Publishing, Basic, Pascal, C, Music, Windows, Sage and Attache. The last two are used for updates and hints and tips from the suppliers.

FULLY MENU DRIVEN

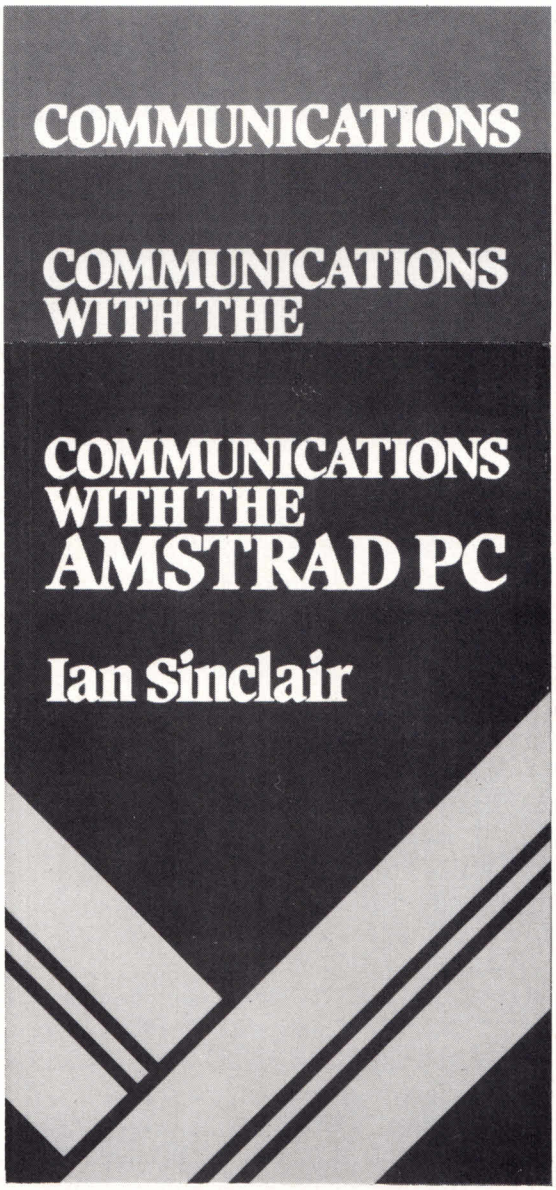
One of the major advantages of AIX is that the system is fully menu driven. This makes choosing an option easy. You get to exactly the area you desire by following the menus. Alternatively, as you get faster, you may use "Hot Keys" to go directly to your destination. You may like to take advantage of the Search facility when looking for a Subject or a particular File. Just type in the name or part name and if the programme is available, you will be told which area.

All updates of the Help files, Price Lists etc. are available for downloading after becoming a member.

So, what does it cost? If you join direct to AIX there is a one off cost of $150 for Membership, plus $100 per year. However, if you purchase your modem through your local Amstrad Dealer, you should get a pleasant surprise. Alternatively, the Yearly fee can be charged on a $10 per month basis if you wish.

Users wishing to browse around, may do so by entering their personal details and then when ready can go to the Registration Office to join. However, unregistered users are restricted to just looking. No downloading or messaging facilities are available to them at this stage.

For a discussion, users may phone Amsnet on 075-325464 anytime between 9 am and 5 pm weekdays. ■



Computer communications start with the modem, your entry to the world of on-line data, hackers and electronic mail. For the newcomer, the puzzle is where to start. This book is for the new modem owner who wants to enter the booming world of computer communications, but is baffled by the technical detail. The action of the modem and its essential software is explained along with the jargon that accompanies communications. Communications with the Amstrad PC was written side by side with the use of an Amstrad PC fitted with an Amstrad modem.

$44.00
(plus P & P)

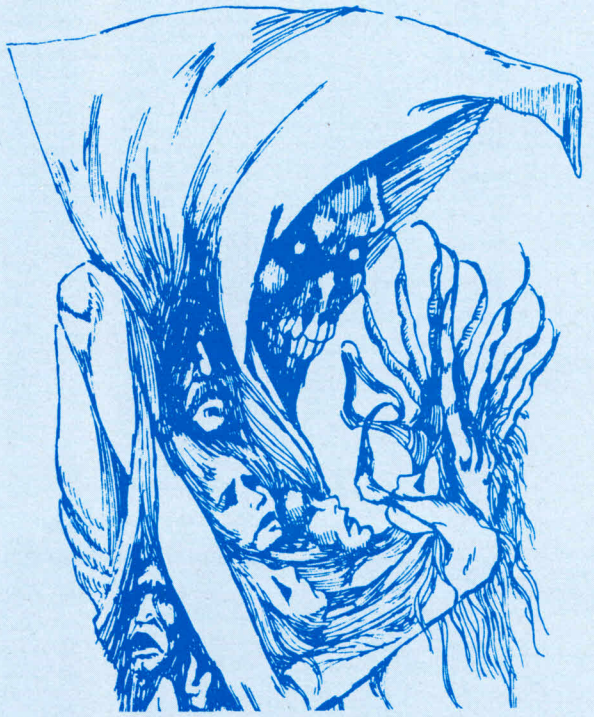
Available from:
The Amstrad User
1/641 High Street Road
Mount Waverley, 3149
(03) 233 9661

Unknown Planet part 3

Here it is! The third and final part of Barrie Eaton's Unknown Planet listing. So get typing and start playing!

```
2990 IF r=32 AND bn=1 THEN PRINT"Don't Bother":GOTO 307
0 ELSE IF r=32 AND bn=0 THEN PRINT"It contains a tiny k
ey and a note":bn=1:PRINT:obj%(43)=posi%:obj%(44)=posi%
:GOTO 3070
3000 IF r=40 THEN PRINT"It is empty.":GOTO 3070 ELSE IF
 r=43 THEN PRINT"It shows a rocket fuel plant beyond th
e petrified forest.":GOTO 3070 ELSE IF r=45 THEN PRINT"
It is badly decayed.":GOTO 3070
3010 IF r=38 AND posi%=74 THEN PRINT"Try reading it.":G
OTO 3070 ELSE IF r=56 THEN PRINT"Try reading it.":GOTO
3070 ELSE IF posi%=105 OR posi%=106 THEN PRINT"It is el
ectrified with a high voltage.":GOTO 3070
3020 IF (r=36 OR r=37) THEN PRINT"It is a brace and bit
":GOTO 3070 ELSE IF posi%=121 AND r=0 THEN PRINT"They c
ontain ROCKET FUEL!":GOTO 3070
3030 IF posi%=110 THEN PRINT"You need to type in a pass
word.":GOTO 3070 ELSE IF posi%=90 THEN PRINT"It needs a
 key to operate it.":GOTO 3070 ELSE IF r=51 THEN PRINT"
It is a small type of arc welder.":GOTO 3070
3040 IF r=20 AND bo<>1 THEN PRINT"It is an empty fuel c
ontainer":GOTO 3070 ELSE IF r=20 AND bo=1 THEN PRINT"It
 contains rocket fuel":GOTO 3070 ELSE IF r=21 AND bp=0
THEN PRINT"It is an empty water canteen":GOTO 3070
3050 IF r=21 AND (bp=1 OR bp=2) THEN PRINT"It contains
water":GOTO 3070 ELSE IF posi%=7 THEN PRINT"It's stuck!
":GOTO 3070
3060 PRINT"Don't bother":GOTO 3070
3070 IF all=1 THEN all=0:RETURN ELSE PRINT:GOTO 610
3080 RETURN
3090 GOSUB 1390
3100 IF r=56 THEN PRINT"It says one word 'HOLOCAUST'":P
RINT:RETURN ELSE IF r=38 AND posi%=74 THEN PRINT"It say
s'Look beyond the petrified forest":PRINT:RETURN
3110 RETURN
3120 IF posi%=90 AND az=1 THEN PRINT"good! The computer
 is operating.It says to type in the password":PRINT:ba
=1
3130 FOR x=1 TO 6:IF inv$(x)=obj$(43) THEN inv$(x)=""
3140 IF az=1 THEN NEXT:az=2:obj$(43)="":RETURN
3150 PRINT"You need the right key!":PRINT:RETURN
3160 RETURN
3170 IF bc<>1 THEN PRINT"You have nothing to weld with.
":PRINT:RETURN
3180 IF bd<>1 THEN PRINT"You need something to cover th
e hole    with first.":PRINT:RETURN
3190 IF bc=1 AND bd=1 THEN PRINT"O.K! The tanks are rep
aired.":sc=sc+20:PRINT:FOR x=1 TO 6:IF inv$(x)=obj$(36)
 THEN inv$(x)=""
3200 IF bd=1 THEN NEXT:bd=2:obj$(36)="":RETURN
3210 RETURN
3220 PRINT:PRINT:INPUT"Do you want to save the game.";e
$
3230 e$=LOWER$(e$)
3240 IF e$="y" THEN GOSUB 3510
3250 PRINT:INPUT"Do you want another game";ww$
3260 IF ww$="y" THEN GOTO 60
3270 END
3280 IF posi%=7 THEN PRINT"It's stuck.":PRINT:RETURN
3290 IF posi%=12 OR posi%=39 OR posi%=82 OR posi%=107 O
R posi%=109 THEN PRINT"It's locked.":PRINT:RETURN
3300 PRINT"You Can't":PRINT:RETURN
3310 RETURN
3320 GOSUB 1390:IF r=50 THEN PRINT"O.K! You drink it.":
GOTO 3420
3330 IF posi%=21 THEN PRINT"You feel much refreshed.":P
RINT:RETURN
3340 PRINT"You Can't":PRINT:RETURN
3350 RETURN
3360 IF posi%=21 THEN PRINT"You Can't":PRINT:RETURN
3370 PRINT"You Can't":PRINT:RETURN
3380 RETURN
3390 IF posi%=33 THEN posi%=32:aak=0:RETURN
3400 PRINT"It has no effect here.":PRINT:RETURN
3410 RETURN
3420 IF posi%=105 OR posi%=106 THEN PRINT:PEN 3:INK 3,3
:PRINT"You have been electrocuted!"
```

```
3430 PRINT:PRINT:PEN 3:INK 3,3:PRINT"You are dead!..."
3440 PRINT:PRINT:PEN 1:PRINT"Do you want another game.
(y/n)"
3450 INPUT a$:a$=LOWER$(a$)
3460 IF LEFT$(a$,1)="y" THEN GOTO 60
3470 END
3480 CLS
3490 PRINT"Well Done!...You have successfully      acco
mplished the necessary repairs to   your ship and obtai
ned the fuel and      water.You can now leave this plane
t and continue on across timeless space to    your next
 exciting adventure."
3500 GOTO 3440
3510 PRINT:PRINT"Please insert tape or disc now."
3520 PRINT:INPUT"Type in version number then [ENTER]",a
$
3530 SPEED WRITE 1
3540 PRINT:b$="data"+a$
3550 PRINT:OPENOUT b$
3560 PRINT #9,loca%(7,4):PRINT #9,loca%(12,4):PRINT #9,
loca%(18,1):PRINT #9,loca%(27,1):PRINT #9,loca%(30,1):P
RINT #9,loca%(33,1):PRINT #9,loca%(33,2):PRINT #9,loca%
(39,3):PRINT #9,loca%(45,3):PRINT #9,loca%(80,2):PRINT
#9,loca%(82,2)
3570 PRINT #9,loca%(50,4):PRINT #9,loca%(3,3):PRINT #9,
loca%(4,4):PRINT #9,loca%(26,4):PRINT #9,loca%(107,4)
3580 PRINT #9,loca%(109,2):PRINT #9,loca%(124,2):PRINT
#9,loca$(12):PRINT #9,loca$(30):PRINT #9,loca$(39):PRIN
T #9,loca$(109):PRINT #9,loca$(18):PRINT #9,loca$(33):P
RINT #9,loca$(26):PRINT #9,loca$(80):PRINT #9,loca$(50)
:PRINT #9,loca$(4)
```



```
3590 FOR x=1 TO 6:PRINT #9,inv$(x):NEXT
3600 FOR x=1 TO 44:PRINT #9,obj%(x):NEXT
3610 PRINT #9,posi%,loca%,obj%,get%,a%
3620 PRINT #9,aa,ab,ac,ad,ae,af,ag,ah,ai,aj,ak,al,am,an
,ao,ap,aq,ar,as,at,au,av,aw,ax,az,ba,bb,bc,bd,be,bf,bg,
bh,bi,bj,bk,bl,bm,bn,bo,bp,sc,aak
3630 CLOSEOUT
3640 PRINT:PRINT"Data file has been created."
3650 FOR k=1 TO 1000:NEXT
3660 CLS:RETURN
3670 PRINT:PRINT"Please insert tape or disc now."
3680 PRINT:INPUT"Type in version number then [ENTER]",a
$
3690 PRINT:b$="data"+a$
3700 PRINT:OPENIN b$
3710 INPUT #9,loca%(7,4):INPUT #9,loca%(12,4):INPUT #9,
loca%(18,1):INPUT #9,loca%(27,1):INPUT #9,loca%(30,1):I
NPUT #9,loca%(33,1):INPUT #9,loca%(33,2):INPUT #9,loca%
(39,3):INPUT #9,loca%(45,3):INPUT #9,loca%(80,2):INPUT
#9,loca%(82,2)
3720 INPUT #9,loca%(50,4):INPUT #9,loca%(3,3):INPUT #9,
loca%(4,4):INPUT #9,loca%(26,4):INPUT #9,loca%(107,4)
3730 INPUT #9,loca%(109,2):INPUT #9,loca%(124,2):INPUT
#9,loca$(12):INPUT #9,loca$(30):INPUT #9,loca$(39):INPU
T #9,loca$(109):INPUT #9,loca$(18):INPUT #9,loca$(33):I
NPUT #9,loca$(26):INPUT #9,loca$(80):INPUT #9,loca$(50)
:INPUT #9,loca$(4)
3740 FOR x=1 TO 6:INPUT #9,inv$(x):NEXT
3750 FOR x=1 TO 44:INPUT #9,obj%(x):NEXT
3760 INPUT #9,posi%,loca%,obj%,get%,a%
3770 INPUT #9,aa,ab,ac,ad,ae,af,ag,ah,ai,aj,ak,al,am,an
,ao,ap,aq,ar,as,at,au,av,aw,ax,az,ba,bb,bc,bd,be,bf,bg,
bh,bi,bj,bk,bl,bm,bn,bo,bp,sc,aak
3780 CLOSEIN
3790 PRINT:PRINT"Data has been loaded."
3800 FOR k=1 TO 1000:NEXT
3810 CLS:RETURN
3820 CLS:PEN 2:LOCATE 14,3:PRINT"UNKNOWN PLANET"
3830 LOCATE 10,8:PRINT"By B.M. and M.C. Eaton"
3840 LOCATE 3,14:PRINT"Most commands are two word form
ie-"
3850 PRINT:PRINT"    Get Knife    Fill Canteen  etc."
3860 LOCATE 7,23:PRINT"PRESS SPACEBAR TO CONTINUE"
3870 c$=INKEY$
3880 IF c$=" " THEN LOCATE 6,25:PRINT"Initialising....P
lease wait!":GOTO 60
3890 GOTO 3870
3900 END
3910 PRINT"You Can't!":PRINT:RETURN
3920 RETURN
3930 'Get all
3940 FOR y=1 TO 6:IF inv$(y)="" THEN xx=y:y=10
3950 NEXT:RETURN
3960 '
3970 FOR x=1 TO 57:IF get%(x)=z THEN r=x:x=60
```

```
3980 NEXT:RETURN
3990 'Drop all
4000 IF inv$(1)="" AND inv$(2)="" AND inv$(3)="" AND in
v$(4)="" AND inv$(5)="" AND inv$(6)="" THEN PRINT:GOTO
610 ELSE RETURN
4010 IF all=0 THEN PRINT obj$(z);" - You can't":cant=1:
RETURN
4020 RETURN
4030 IF y<10 THEN PRINT obj$(z)" - Your hands are full!
":full=1
4040 RETURN
4050 IF posi%=27 AND ad=1 AND (r=14 OR r=39) THEN obj%(
12)=27 ELSE IF posi%=28 AND ad=1 AND (r=14 OR r=39) THE
N obj%(12)=28
4060 FOR x=1 TO 6:IF inv$(x)=obj$(12) THEN inv$(x)=""
4070 IF ad=1 THEN NEXT:ad=0:RETURN
4080 RETURN
4090 IF posi%=45 AND ad=1 AND (r=14 OR r=39) THEN obj%(
12)=45 ELSE IF posi%=51 AND ad=1 AND (r=14 OR r=39) THE
N obj%(12)=51
4100 FOR x=1 TO 6:IF inv$(x)=obj$(12) THEN inv$(x)=""
4110 IF ad=1 THEN NEXT:ad=0:RETURN
4120 RETURN
4130 IF posi%=34 AND ag=1 AND r=17 THEN obj%(14)=34
4140 FOR x=1 TO 6:IF inv$(x)=obj$(14) THEN inv$(x)=""
4150 IF ag=1 THEN NEXT:ag=2:bj=1:RETURN
4160 RETURN
4170 IF posi%=124 AND aw=1 AND r=52 THEN obj%(40)=124 E
LSE IF posi%=125 AND aw=1 AND r=52 THEN obj%(40)=125
4180 FOR x=1 TO 6:IF inv$(x)=obj$(40) THEN inv$(x)=""
4190 IF aw=1 THEN NEXT:aw=2:RETURN
4200 RETURN
4210 IF posi%=106 AND aw=1 AND r=52 THEN obj%(40)=106
4220 FOR x=1 TO 6:IF inv$(x)=obj$(40) THEN inv$(x)=""
4230 IF aw=1 THEN NEXT:aw=2:RETURN
4240 RETURN
4250 IF posi%=105 AND al=1 AND r=50 THEN obj%(38)=105
4260 FOR x=1 TO 6:IF inv$(x)=obj$(38) THEN inv$(x)=""
4270 IF al=1 THEN NEXT:al=2:RETURN
4280 RETURN
4290 IF posi%=5 AND ac=1 THEN obj%(11)=5
4300 FOR x=1 TO 6:IF inv$(x)=obj$(11) THEN inv$(x)=""
4310 IF ac=1 THEN NEXT:ac=2:RETURN
4320 RETURN
4330 LET xxx=INT(RND*4+1)
4340 IF (xxx=2 OR xxx=4) THEN GOTO 2340
4350 IF (xxx=1 OR xxx=3) THEN GOTO 2410
```

That's it! Your three month's of patient typing are over, well at least until our next adventure. If you can't get the program to work, even after careful checking of the listing, a full working version is available on our monthly cassette for a modest sum of $5.00.

ADVENTURER'S CONTACT LIST

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Knight orc, Guild of Theives, The pawn, Sorcerer, Lancelot

Graphics and imagination

This month, Phillip Riley discusses the long debated question of the importance of graphics in adventure games.

Should graphics be used in adventures? That is a question that I have given much thought to since graphic games appeared. My answer will probably upset a lot of people as I don't think that graphics do much for the majority of the games on the market. In many cases they can be rather slow when being drawn on the screen and I find this rather annoying. They don't really add to most games, take as an example, the Hobbit, the game would have been just as good without the graphics and while they were good they are still no match for your imagination.

I would prefer better written descriptions of locations and then to let my imagination do the rest. Remember also that the data for the graphics can take up a lot of memory space. Putting that memory space to other uses could probably be more beneficial to the game than graphics.

But what about graphic only games rather than text adventures with graphics thrown in as an extra. Most of these I do like, though I must say that I have never been a big fan of Alien 8 or Knightlore, I found these games to be a little slow for my liking. Sorcery and Gauntlet I did like, they were both done well. In particular Gauntlet was good, having played various versions on various computers I found the Amstrad version very acceptable and enjoyable.

Of course the other big problem is that the Amstrad CPC range just does not have the memory capacity of other computers that have been released since. You can of course expand the memory but it really is not worth putting out commercial software to run on memory expansions as not enough people own memory expansions to make it a viable proposition, and of course the people without the expansions would complain that they could not run this software.

But to get back to the point, when all is said and done it is up to the individual to decide if they like graphics in their adventures or not. I would be interested in hearing anyone elses view on the subject.

Well now that I have had my little whinge on the subject of graphics here is a sneak preview of what is coming up next month.

```
10 BORDER 0
20 KEY 128,"out &bc00,1:out &bd00,40:out &bc00,2:out &b
d00,46:out &bc00,6:out &bd00,25:out &bc00,7:out &bd00,3
0"+CHR$(13)
30 FOR w=0 TO 40:OUT &BC00,1:OUT &BD00,40-w:OUT &BC00,2
:OUT &BD00,46-(w/2):OUT &BC00,6:OUT &BD00,25-(w/1.7):FO
R ww=1 TO 20:NEXT:NEXT
40 CLS
50 FOR w=40 TO 0 STEP-1:OUT &BC00,1:OUT &BD00,40-w:OUT
&BC00,2:OUT &BD00,46-(w/2):OUT &BC00,6:OUT &BD00,25-(w/
1.7):FOR ww=1 TO 20:NEXT:NEXT
```

Pretty nifty eh! What is it doing? The computer is sucking up its own screen and then spitting it back out again. See you next month.

QUESTIONS

Mrs. Rosalie McDonald would like help in hitchhikers, she would like to know how to remove the particle from her brain in order to show it to the door.

Rosalie would also like help in the PCW version of Heroes of Karn. She has found all of the heroes and thinks she has collected all of the treasures except for the jade flower. She has the key to open the door to the kings room but the computer keeps on insisting that she does not have the key. She has read that the PCW version of this game had a bug in it that did not allow you to open the door, if this is so is there any way she can get around it. She really would also like to know the location of the jade flower and the dagger. ■

CLASSIES

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WANTED

RS232C serial interface. Top condition, low price (ha!). Also firmware manual SOFT968 and Concise Basic Specification SOFT967, to buy or borrow. Phone AH (03) 5256385 George.

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Golburn Valley Amstrad User Group meets third Thursday of the month in North Shepparton Community House. Olympic Avenue, Shepparton. For details please phone (058) 212703. Everyone welcome, supper provided.

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

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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

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CPC Ref: #614 PCW Ref: #814

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PCW Ref: #815

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

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

CPC continued

Professional 4 Soccer Simulator	34.95	24.95
Pro Tennis 3-D	24.95	-
Psycho Pigs	44.95	29.95
Raffles	-	26.95
Rally Cross	39.95	29.95
Renegage 3	39.95	29.95
Robocop	44.95	29.95
Rodeo Games	39.95	-
Rolling Thunder	-	29.95
R-Type	44.95	29.95
Running Man	39.95	-
Run the Gauntlet	39.95	29.95
Sapiens	39.95	29.95
Savage	39.95	29.95
Scrabble (standard)	39.75	29.00
SDI	39.95	29.95
Shinobi	49.95	34.95
Silk Worm	49.95	-
Slaine	35.95	-
Skate Crazy	-	29.95
Sorcerer Lord	44.95	29.95
Space Racer (Space jet bikes)	32.95	-
Spherical	39.95	29.95
Star Wars	49.95	-
Storm Lord	36.95	-
Strider	39.95	29.95
Super Scramble	39.95	29.95
Super Trux	39.95	29.95
Technocop	44.95	-
Terramex	34.99	29.99
Tetris	-	29.95
Thunder Blade	44.95	29.95
Thunderbirds	39.95	29.95
Time Scanner	-	29.95
Times of Lore	39.95	29.95
Tintin on the Moon	**39.95**	**29.95**
Titan	39.95	29.95
Toobin	**39.95**	**29.95**
Total Eclipse	44.95	29.95
Trivial Pursuit - a new beginning	45.95	35.95
Turbo Cup	39.95	29.95
Turbo Outrun	39.95	29.95
Tusker	44.95	29.95
Typhoon	-	29.95
Untouchables, The	39.95	29.95
Vigilante	-	29.95
Vindicators	39.95	-
Vixen, The	34.95	-
Wanderer 3-D	39.95	29.95
War in Middle Earth	-	49.95
WEC Le Mans	-	29.95
West Phaser (Wild West game +Light Gun)		**n.y.a**
Xenaphobe	49.95	-
Xybots	34.95	24.95
Yes Prime Minister	49.95	39.95

CPC BLOCKBUSTER BUDGETS

Advanced Pinball Simulator	-	11.95
Battle Valley	-	12.95
BMX Simulator	-	9.95
Dizzy Dice/Joe Blade	22.00	-
Fruit Machine Simulator	-	9.95
Grand Prix Simulator	-	9.95
Hydrofool	-	12.95
Jet Bike Simulator	-	21.95
Light Force	-	12.95
Ocean Conqueror	-	12.95
Professional BMX Simulator	-	21.95
Professional Ski Simulator	-	9.95
Shockway Rider	-	12.95

CPC continued

Super Stuntman	-	9.95
Tanium	-	12.95
Technician Ted	-	12.95
Uridium	-	12.95

CPC COMPILATION PACKS

100% DYNAMITE
with Afterburner, Last Ninja 2, WEC Le Mans and Double Dragon - **39.95**

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

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

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

FOUR SMASH HEWSON HITS
with Zynaps, Exolon, Ranarama and Uridium Plus - 29.95

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

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

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

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

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

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

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

STRAIGHT SIX
Loriciel's compilation with 3D Fight, Billy, Soccer, MGT, Flash and ZOX2099 29.95 19.95

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

TAU GAMES + *(6128s only)*
Dominoes, Snakes and Ladders, Mah-Jong, 3-D Noughts & Crosses, Trucking, Tycoon plus Graphic Designer and Sprite Designer 32.95 -

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

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

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

CPC continued

Price of Magik	49.95	39.95

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

CPC YEAR DISCS

Containing all the monthly type-ins published

Year Disc 1 - Issues 1 to 12	50.00	-
Year Disc 2 - Issues 13 to 16	22.50	-
Year Disc 3 - Issues 17 to 20	25.00	-
Year Disc 4 - Issues 21 to 24	25.00	-
Year Disc 5 - Issues 25 to 28	25.00	-
Year Disc 6 - Issues 29 to 32	25.00	-
Year Disc 7 - Issues 33 to 36	25.00	-
Year Disc 8 - Issues 37 to 40	25.00	-
Year Disc 9 - Issues 41 to 44	25.00	-
Year Disc 10 - Issues 45 to 48	25.00	-
Year Disc 11 - Issues 49 to 52	25.00	-
Year Disc 12 - Issues 53 to 56	25.00	-
Separate tapes for each issue's type-ins are also available : each	-	5.00

CPC SERIOUS SOFTWARE

MODEL UNIVERSE - 3D rotating drawing 54.95 -

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

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

CARDBOX - card filing style database (6128s only) 99.00 -

EXTRA EXTRA - a disc of ready made graphics, fonts and clip art compatible with Stop Press 89.00 -

MASTERFILE III - the best relational database system (128k only) 109.00 -

MASTERCALC 128 - spreadsheet program for 6128s (or 464 with disc drive and expansion) 99.00 -

MATRIX - spreadsheet with text editing facilities, database, mail merging etc. 79.95 -

MINI OFFICE II - a comprehensive value package which includes six different modules enabling you to write letters, prepare reports, create computerised files, compile mailing lists, set up financial records, carry out complicated calculations, draw graphs, print out labels and communicate directly with other computers over the phone 59.00 -

MONEY MANAGER - powerful cash book program 59.95 -

PERSONAL EXCELLENCE PACKAGE - High quality Mental performance analyser 109.00 -

PLAN-IT - desktop organiser 39.95 -

PRINT MASTER PLUS - create your own Banners, Letterheads, Signs, Calendars or Greeting Cards with graphics or borders supplied. *(Runs under CP/M Plus only)* 59.95 -

PRINT MASTER ART GALLERY 1 - 140 pictures of holidays, animals, sports office etc. 50.95 -

PRINT MASTER ART GALLERY 2 - 140 pictures of ornamental letters, flags, people 50.95 -

PROTEXT - high speed w/p 79.95 -

PROTEXT FILER - pop-up database for Protext. (Requires Promerge & Protext) 59.95 -

PROTEXT OFFICE - pop-up add-ons for Protext including mailmerge and invoice generator. (Needs Promerge & Protext) 79.95 -

PROSPELL - spell checker 69.95 -

PROMERGE - mail merger 69.95 -

CPC continued

STOCKMARKET - monitors shares etc. 49.95

STOP PRESS

The ultimate Desktop Publishing package for CPC owners. Combine text and graphics with 'what you see is what you get' facilities. The ideal publishing software solution for home enthusiasts, schools, societies and small businesses. (Stop Press needs 128k)

Stop Press (disc only)	**129.00**
With AMX MkIII Mouse	**259.00**
Extra Extra clip art	**69.95**
Mouse only	**169.00**

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

CPC EDUCATIONAL

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

From Satchel Software (Education Dept. of SA) for 6128s only		
Abscoded Convicts	40.00	-
African Farming Game	40.00	-
Anna	55.00	-
Artworks	40.00	-
Catastrophes	40.00	-
Chart Buster	40.00	-
Convict Ships	40.00	-
Cordial Stall	40.00	-
Cross Whiz	40.00	-
Disasters	40.00	-
Dragon World	50.00	-
Find-a-book	40.00	-
First Fleet	40.00	-
Granny's Garden	40.00	-
Guess the Word	40.00	-
Hammurabi	40.00	-
Jara Tava	40.00	-
Kadimakara - Creatures of the Dreaming	50.00	-
Logo Screen Dump	30.00	-
Mathbooster	40.00	-
Math Games 1	40.00	-
Math Games 2	40.00	-
Math Hopper	40.00	-
Mosaic	40.00	-
News Writer	40.00	-
Omicron	40.00	-
Pathweaver	40.00	-
Picture Book	40.00	-
Picture Book Companion	40.00	-
Point Puer Lads	40.00	-
Print Machine, The	40.00	-
Sailing South	40.00	-
Settlement	40.00	-

CPC continued

Soft Word	40.00	-
Step Inside	40.00	-
Story Paths	40.00	-
Tree of Knowledge	40.00	-
Where's Baby Bear?	40.00	-
Which way Words	40.00	-
Women's Series Databases:		
Australian Women	40.00	-
Women in Society	40.00	-
Women in Science	40.00	-
Women in Sport	40.00	-
All the above four	90.00	-
Word Hunt	40.00	-
Word Hunt Companions		
Volume 1	40.00	-
Volume 2	40.00	-
Volume 3	40.00	-
Word Processing Pack	40.00	-
World Wide	40.00	-

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

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

1. Treasure/Perfume Hunter (7-10)	49.95	39.95
2. Fletcher's Castle/Raider(8-12)	49.95	39.95
3. Thorn Sea/Ferry Captain (9-13)	49.95	-

From FUN SCHOOL: *three discs in the series each containing 10 educational programs.*

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

(All reviewed Issue 48 - Jan '89)

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

Fun School 2 - Under 6	34.95	24.95
Fun School 2 - 6 to 8	34.95	24.95
Fun School 2 - Over 8	34.95	24.95
THE MAGIC SWORD - Full colour reading book and complementary child's adventure	39.95	-
THREE BEARS - graphic adventure to improve logic, deduction and reasoning	34.95	-

CPC PERIPHERALS

AMX MOUSE Mk III - with superior ball technology and high resolution movement this updated mouse from Database gives total control and flexibility, andcompatibility with Stop Press. Comes with an interface for CPC owners 150.00

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

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

MOUSE MATS - keeps Mouse clean 19.95

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

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

CPC continued

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

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

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

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

256k MEMORY EXPANSION (6128) 289.00

256k SILICON DISC SYSTEM (6128) 329.00

JOYSTICKS

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

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

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

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

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

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

CPC MISCELLANEOUS

SCREEN FILTER 29.95

DUST COVERS - Australian made vinyl fabric dust covers in light grey colour for:

464 monitor and keyboard	35.00
6128 monitor and keyboard	35.00
DMP2000/2160/3160 Printer	17.00

RIBBONS

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

3" DRIVE CLEANING KIT 19.95

CF-2 3" DISCS EACH 7.25

6128 'SEAL 'N' TYPE' KEYBOARD PROTECTOR

CPC continued

Stops damaging spills etc. 29.95

— PCW —
8256 - 8512 - 9512

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

PCW GAMES

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

PCW YEAR DISC

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

PCW EDUCATIONAL

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

PCW PUBLISHING

Desk Top Publisher 59.95
Newsdesk International 89.00

PCW continued

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

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

PCW DATABASES

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

PCW MISCELLANEOUS

BRAINSTORM - tool for structuring raw ideas ina logical manner 79.00

DAATAFAX PERSONAL ORGANISER a Gift Pack by Kempston - with software, stylish binder, subject tabs, and starter stationery 149.00

DATASTORE II - menu-driven customised report generator, mailing list and label printer. Can be used with type styler Supertype II. 89.95

FLIPPER 2 - splits your PCW (8256, 8512 or 9512) memory into two environments and lets you flip between them, eg. between CP/M and Loco2. Not suitable for LocoScript 1. 89.95

GRAPHICS, THE UNIVERSE AND EVERYTHING...
This latest version (2.0) provides the means to create professional graphics output and more. Source code included (All PCWs) 75.00

LIGHTNING BASIC PLUS - turbo charge your Mallard Basic (All PCWs) 75.00

MASTER PAINT - deluxe graphics program, for use with either mouse or keys 49.95

MINI OFFICE PROFESSIONAL - the PCW version of the highly successful Mini Office II with Spreadsheet,Wordprocessor, database, graphics and communications 149.00

MONEY MANAGER PLUS - cashbook/personal accounting 99.00

NEWWORD2 - PCW WordStar equivalent 100.00

PCW TOOLKIT - allows you to examine and alter data on any PCW disc as well as copy part or all of a damaged or corrupted disc for repair. Full instructions provided. 69.95

PERSONAL EXCELLENCE PACKAGE - High quality mental performance analyser 109.00

PLAN-IT - desktop organiser, plan budgets, sort files etc. 39.95

PRINT MASTER PLUS - create your own Banners, Letterheads, Signs, Calendars or Greeting Cards with graphics or borders supplied. (Runs under CP/M Plus only) 59.95

PROTEXT FILER - pop-up database for Protext 59.95

PROTEXT OFFICE - as Protext Filer but with mail-merge and invoice generator module 79.95

PROTEXT PCW 149.00

PROSPELL PCW - spellchecker for most word processors incl. WordStar and LocoScript 79.95

SCRATCHPAD PLUS spreadsheet 99.00

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

PCW continued

STARTRACK - tracks you through 88 constellations and more than 600 stars 54.95

STOCKMARKET - watch your investments 79.95

SUPERTYPE II - 8 new different typestyles for use with all CP/M, LocoScript 1/2, LocoMail and Mini Office Professional files 39.95

TAIT ACCOUNTING SYSTEM - small business Debtors, Creditors and Invoicing 99.00

TEMPDISC - a disc full of instant templates exploiting LocoScript to the full. Provides a wide range of heading styles, agendas, invoices, borders and documents:
Tempdisc 1 (needs Loco1) 59.95
Tempdisc 2 (needs Loco2) 59.95
Tempdisc 8.2 (needs Loco2, Locomail and 8512) 67.95
Tempdisc 9 (for 9512) 67.95

TOUCH 'n' GO - typing tutor 69.00

PCW PERIPHERALS

8256/512 'Seal 'n' Type' KEYBOARD PROTECTOR
Stops damaging spills etc. 29.95

9512 'Seal 'n' Type' KEYBOARD PROTECTOR
Stops damaging spills etc. 29.95

CPS8256 SERIAL INTERFACE for PCWs for communications or adding extra printers 145.00

AMX MOUSE plus interface - the most popular and sought after peripherals for your PCW, especially with Stop Press 165.00

PCW JOYSTICK INTERFACE from Kempston 49.95

SCANNER - Master Pack - a scanning device which attaches to a PCW printer head to copy photos or other art work, Master Scan software and MasterPaint, a powerful graphics package. Compatible with Desktop Publisher, FSE and Newsdesk International (8256 and 8512s only) 279.00

SCREEN FILTER 29.95

PCW DUST COVERS

Australian made vinyl fabric dust covers complete for the following PCWs:
8256/8512 monitor, keyboard and printer 55.00
9512 monitor, keyboard and printer 60.00

PCW TASMAN RANGE

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

PCW CONSUMABLES

PCW 8000s PRINTER RIBBONS
Black Carbon/Multistrike or Nylon 19.95
Coloured Nylon - Blue, Red or Green 24.95
PCW 9000s PRINTER RIBBONS
Black Carbon/Multistrike 15.95
Black Nylon 19.95
DAISY WHEELS FOR 9000s
Prestige Pica 10; Prestige Elite 12; Courier 10; Cubic Pica 10; Mini Gothic 15/Micro; Orator 90%/10; Letter Gothic 10/12; Script 12 each 19.95
3" DISC DRIVE CLEANING KIT 19.95
CF2 3" DISCS each 7.25

PCW LOCOMOTIVE PRODUCTS

LOCOSCRIPT 2 (latest) with manual 87.00
LOCOSCRIPT2 (latest) Disk only 49.95

PCW continued

LOCOSCRIPT 2 + LOCOSPELL2 pack 130.00
LOCOMAIL2 105.00
LOCOSPELL2 75.00

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

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

PRINTER CHARACTER SET DISC for defining new character sets 59.95

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

KEYBOARDS DISC to configure LocoScript2 to use American, Canadian, Danish, English, French, German, Italian, Norwegian, Spanish or Swedish keyboard layouts with any nationality of LocoScript2. 59.95

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

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

LOCOFONT SET 1 adds nine extra fonts to your matrix printer 75.00

LOCOFONT SET 2 adds a further set of five fonts to your matrix printer 65.00

LOCOKEY to customise your keyboard 59.95

LOCOMAIL SORTING PROGRAM 39.95

LOCOMAIL2 EXAMPLES DISC 17.50

LOCOMAIL2 NEW USER GUIDE 54.95

The following are for PCW 9512s (Please state 9512 when ordering):

24 PIN PRINTER DRIVER - suitable for most 24 pin printhead printers attached to the 9512 64.95

PRINTWHEELS DISC allows the correct printing of the characters from any printwheel supplied for the built-in printer. 59.95

LOCOFILE/9000 - the resident 'pop-up' database for LocoScript2 on the 9512 110.00

KEYBOARDS DISC to configure LocoScript2 to use American, Canadian, Danish, English, French, German, Italian, Norwegian, Spanish or Swedish keyboard layouts with any nationality of LocoScript2. 59.95

PRINTER DRIVER AND CHARACTER SETS supports a wide range of printers and printwheels used as an alternative to the built-in printer 59.95

LOCOMAIL SORTING PROGRAM 39.95

LOCOMAIL2 EXAMPLES DISC 17.50

PC

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

Items marked with a "†" symbol are also available in 3.5" disc format.
Items marked with a "#" symbol are supplied with both 5.25" and 3.5" discs.
Items marked with a "Δ" symbol are not suitable for a PC20.

PC & COMPATIBLES GAMES

2000 leagues under the sea 39.95
3-D Helicopter Simulator # 52.95
4 x 4 - Off-Road Racing † 49.95
4th and Inches (Grid Iron) 44.95
4th and Inches Construction Set 35.95
A-10 Tank Killer (flight sim.) 69.95

PC continued

Abrams Battle Tank 54.95
ACE 2 33.50
Action Service 54.95
Adventure 12 Series: *12 adventures + hint book* 59.95
Alien Syndrome **59.95**
All Point Bulletin 59.95
Ancient Art of War # 74.95
Airball (now supports EGA and VGA) 59.95
Airborne Ranger † 59.95
African Raiders 49.95
After the War **54.95**
Alf 39.95
Amazon 32.95
Annals of Rome # 64.95
Apollo 18 59.95
Auto Duel 59.95
Backgammon 24.95
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(The PC20 was reviewed in Issue 56 - Sept '89)

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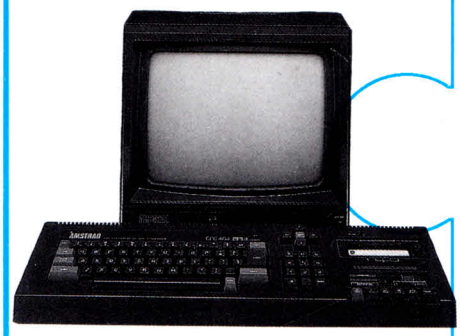

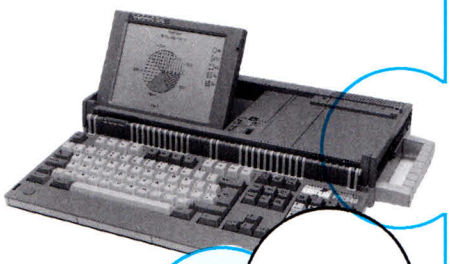

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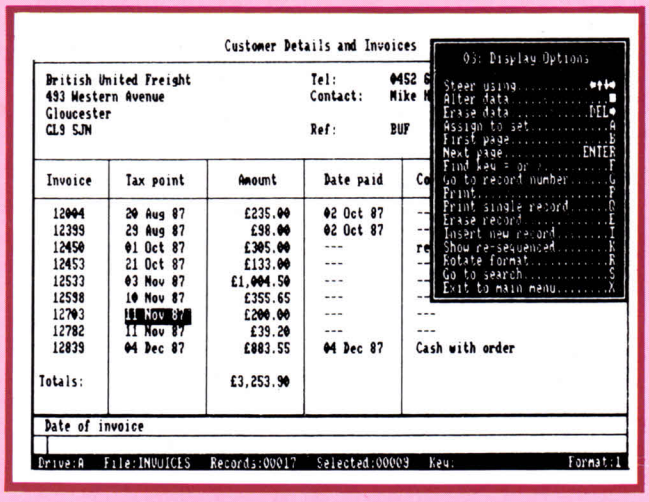

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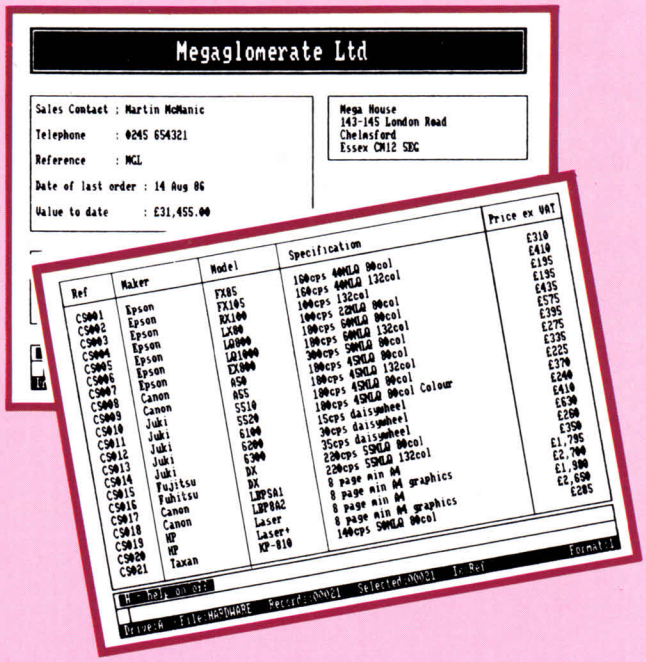

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